LONG-TERM RENEWAL OF THE CONTRACT AMONG THE UNITED STATES AND THE PAJARO VALLEY WATER MANAGEMENT AGENCY, WESTLANDS WATER DISTRICT DISTRIBUTION DISTRICT NO 1, AND SANTA CLARA VALLEY WATER DISTRICT PROVIDING FOR CENTRAL VALLEY PROJECT WATER SERVICE

(Contract No. 14-06-200-3365A)

Draft Environmental Assessment

EA-04-44

December 2004

Issued by:
U.S. Bureau of Reclamation
Mid-Pacific Region
South-Central California Area Office

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
DRAFT

FINDING OF NO SIGNIFICANT IMPACT

LONG-TERM CONTRACT RENEWAL FOR PAJARO VALLEY WATER MANAGEMENT AGENCY, SANTA CLARA VALLEY WATER DISTRICT, AND WESTLANDS WATER DISTRICT DISTRIBUTION DISTRICT #1 PROVIDING FOR CENTRAL VALLEY PROJECT WATER SERVICE

(Contract No. 14-06-200-3365A) **FONSI-04-44**

BACKROUND

In accordance with Section 102 (2) (c) of the National Environmental Policy Act (NEPA) of 1969, as amended, the Mid-Pacific Regional Office of the U.S. Bureau of Reclamation (Reclamation) has determined an Environmental Impact Statement is not required for the proposed execution of the Long-Term Water Service Contract for Pajaro Valley Water Management Agency (PVMWA), Santa Clara Valley Water District (SCVWD) and Westlands Water District Distribution District Number 1 (WWD) of the Central Valley Project (CVP). This Finding of No Significant Impacts (FONSI) is supported by Reclamation's *Long-Term Renewal of the Contract Among the United States and the Pajaro Valley Water Management Agency, Westlands Water District Distribution District No 1, and Santa Clara Valley Water District Providing For Central Valley Project Water Service Contract (No. 14-06-200-365A)* Environmental Assessment (EA).

Section 3409 of the Central Valley Project Improvement Act of 1992 (CVPIA) stipulates that Reclamation must prepare and complete a Programmatic Environmental Impact Statement (PEIS), pursuant to NEPA, analyzing the direct and indirect impacts and benefits associated with the implementation of the CVPIA. This was completed with the Record of Decision signed on January 9, 2001.

In accordance with Section 3404(c) of the CVPIA, authorization of long-term contract renewals (LTCRs) also requires appropriate environmental review. This was the subject of the PVWMA, SCVWD, and WWD LTCR EA, which tiered from the CVPIA PEIS. The PEIS addressed the impacts and benefits of implementing the CVPIA provisions CVP-wide and allowed subsequent environmental documents to tier from and to incorporate the PEIS analysis. The PVWMA, SCVWD, WWD LTCR EA analyzed localized impacts of continued water deliveries of 6,260 acre feet per year (af/y) to PVWMA, SCVWD, and WWD, resulting from the 25-year LTCR.

The purpose of the LTCR is to execute the Long-Term Water Service Contract with PVWMA, SCVWD and WWD Distribution District No. 1 for 25-years. For the purposes of this FONSI and incorporated by reference EA, it is assumed this Long-Term Contract would be signed in 2005 and expire on February 28, 2031. The approval and long-term

contract would be consistent with the provisions in the CVPIA. This Proposed Action is necessary to continue water deliveries to existing CVP contractors for agricultural, municipal and industrial purposes.

Three alternatives were identified in the draft EA for the renewal of the long-term contract between Reclamation, PVWMA, SCVWD, and WWD. The alternatives represented a range of water service agreements provisions that could be implemented for the long-term contract renewals. The No-Action Alternative consists of renewing the existing water service contract as described by the Preferred Alternative of the PEIS. In November 1999, Reclamation published a proposed long-term water service contract. In April 2000, the CVP Contractors presented an alternative long-term service contract. Reclamation and CVP Contractors continued to negotiate the CVP-wide terms and conditions with these proposals serving as the "bookends". The final contract language and the long-term renewal Proposed Action represents a negotiated position between Alternatives 1 and 2. The analysis of the final contract language will be included in the Final EA.

The EA and the scope of the analysis were developed consistent with regulations and Council of Environmental Quality. The analysis in the EA finds that the renewal of the contract is, in essence, a continuation of the "status quo". Although there are financial and administrative changes to the contracts, they perpetuate the existing use and allocation of resources (i.e. the same amount of water is being provided to the same lands for existing/ongoing purposes). The analysis in the EA, therefore, addresses the proposed changes to the contract and the potential environmental effects of those changes. As indicated in the attached EA and in this FONSI, these contract changes would not result in significant deterioration of the environment.

FINDINGS

Reclamation prepared an EA on the proposed LTCR and will be made available to the public and is hereby incorporated by reference. In accordance with NEPA and its implementing regulations and consistent with the analysis in the EA, the Mid-Pacific Region of Reclamation has found that the Proposed Action is not a major federal action that would significantly affect the quality of the human environment. Consequently, an environmental impact statement is not required. This determination is supported by the following factors:

1. Surface Water Resources – Under the proposed LTCR, CVP operations and use amounts would remain the same as existing conditions for SCVWD and WWD Distribution District No. 1. The 6,260 af/y of water is used to offset the annual water supply shortages resulting from environmental concerns and regulations in the Delta. The continued deliveries of this water reduce the need for water transfers into WWD from other sources. Tiered pricing would not likely result in significant impacts to WWD or SCVWD since it would be more economical compared to water transfers or costs associated with groundwater pumping. The Proposed Action would have no effect on total water supply.

PVWMA does not have a pipeline to physically receive the water at this time. Reclamation has prepared a Final Environmental Impact Statement for PVWMA Basin Management Plan for the approval of the connection of the pipeline to CVP facilities, the use of CVP water in PVWMA and the funding for the Watsonville Water Treatment Facility. The Record of Decision (ROD) was finalized on September 10, 2004. The CVP water addressed in the Final Impact Statement and ROD includes the 6,260 af/y for the LTCR. The LTCR would replace the existing interim renewal contract. Tiered pricing would not impact PVWMA since CVP water has not been delivered in the past.

The proposed LTCR would not alter any CVP entitlement or impede any obligations to deliver water to other CVP contracts, fish or wildlife refuges. CVP Contractors would continue conjunctive use of available surface and groundwater but with more emphasis on the groundwater during dry periods when CVP supplies are limited.

2. Groundwater Resources – Contractors would continue managing available surface water and groundwater as in the past. During dry periods, more groundwater is likely to be pumped when economically beneficial or when CVP water is limited. The Proposed Action would likely reduce the extraction of groundwater in SCVWD and WWD on a small scale and would not result in significant impacts to groundwater resources.

PVWMA is responsible for the management of the Pajaro Valley basin. The FEIS for the connection of a pipeline, funding for the Watsonville Treatment Facility, and use of CVP water in PVWMA addressed the impacts of implementing measures to correct saltwater intrusion.

3. Water Quality - The proposed LTCR would not change surface or groundwater quality from existing conditions. The water delivered under this proposed action is small and is of high enough quality to not lead to significant changes in water quality when added to creeks or percolation ponds.

4. Fisheries – The Proposed Action is expected to continue using both CVP surface water and groundwater. There are no changes to CVP operations or contract amounts that would affect the timing of water moving through the canals, Delta or stream flows to the extent it would affect fishery resources. Therefore, the Proposed Action would have no impacts on fishery resources.

5. Land Use Resources – The Proposed Action would not result in growth-inducing impacts because there would be no changes to CVP operations or contract amounts. Relatively small and insignificant decreases in irrigation acreage (less than two percent) are expected with changing climatic conditions from wet to dry years. The Proposed Action would not result in significant impacts or changes to land use.

6. Biological Resources – The Proposed Action, relative to the No Action

Alternative, does not increase the water service contract amounts, require additional facilities (dams, canals, etc.), or convert natural habitat to farmland. Consequently, the continued historic operations under the Proposed Action would not result in any changes to the area's biological resources.

The approval of the connection of the PVWMA pipeline to CVP facilities, funding for the Watsonville Water Treatment Facility, and use of CVP water in PVWMA is a separate action to the long-term contract renewal. The pipeline connection, use of CVP water and funding for the Watsonville Water Treatment Facility were the subject of an Environmental Impact Statement. The National Oceanic and Atmospheric Administration and U.S. Fish and Wildlife Service have issued Biological Opinions for the separate actions associated with the PVWMA Basin Management Plan.

The Proposed Action results in the continued deliveries of water to SCVWD and WWD within historic levels and would not result in significant impacts to biological resources. Therefore, with the implementation of the measures of the Biological Opinion for use of CVP water in PVWMA, the proposed LTCR would not result in significant impacts to biological resources.

7. Threatened and Endangered Species - Consultation pursuant to the Endangered Species Act has been completed for the PVWMA projects, including the use of 6,260 af/y of water in PVWMA and were addressed in the Final Environmental Impact Statement with both the FWS and NOAA. FWS and NOAA have issued non-jeopardy biological opinions. The implementation of the various commitments and requirements in those opinions will ensure that there would be no significant impact on listed species. The terms and conditions, reasonable and prudent measures and all environmental commitments, identified in the BO are, hereby, incorporated by reference.

The renewal of Contract Number 14-06-200-3365A would not result in increased supplies in SCVWD or WWD beyond contract supplies. Therefore the Proposed Action would not likely adversely affect federally listed threatened or endangered species or the designated critical habitats. Reclamation is informally consulting with the FWS concurrent with the NEPA process.

8. Socioeconomic Resources – The Proposed Action would have a less than significant effect on socio-economical resources. The largest variations seen in irrigated acres, gross revenue, net revenue, and employment in the region occur as a result of changes in the weather and commodity demands. The changes associated with dry years include reductions of irrigated acres by less than two percent, gross revenue by less than one percent, and decreases in employment by less than one percent.

9. Cultural Resources – The Proposed Action will not result in significant impacts to

eligible or significant cultural resources because no additional infrastructure would be constructed and no land use changes or conversions into farmland or other uses are proposed. In addition, there would be no increase in deliveries, land use changes, or conversion of existing natural habitat into farmland or other uses.

10. Environmental Justice – The Proposed Action would not have a disproportionately high adverse affect on any one ethnic group compared to another, including land owners, farmers, and farm workers. However, any change would reflect more on individuals and skill levels who are generally economically disadvantaged. The Proposed Action would not have a disproportionately high and adverse or environmental effect on minority or low-income populations.

11. Indian Trust Assets – The Proposed Action relative to the No Action Alternative would continue CVP water deliveries with no change to the contract amount. There is no change in CVP management, reservoir operations, or facilities that would interfere with existing Indian Trust Assets (ITAs) water rights or diversions.

12. Cumulative Effects – Cumulative impacts on a CVP-wide basis were adequately addressed in the CVPIA PEIS, from which the EA tiered. The analysis provides the programmatic cumulative analysis for the No-Action Alternative to which Alternatives 1 and 2 can be compared. Since the differences among the alternatives are essentially administrative/financial contractual features, there would be no addition to cumulative impacts associated with implementation of the CVPIA to resources under all alternatives.

The delivery of CVP water under the Proposed Action would not induce population growth within PVWMA, SCVWD or WWD since the amount is small when compared to the overall water supplies in either of the districts.

Recommended:

_____

Environmental Officer Date
South-Central California Area Office

Concur:

_____

Chief, Resource Management Division Date
South-Central California Area Office

Concur: _____

Area Manager Date
South-Central California Area Office

Concur: _____

Regional Environmental Officer Date
Mid-Pacific Regional Office

Approved:

_____

Regional Resources Manager Date
Mid-Pacific Regional Office

FONSI No. 04-44

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TABLES

ACRONYMS AND ABBREVIATIONS

ABAG – Association of Bay Area Governments
af – acre-foot (feet)
af/y – acre-feet per year
BAAQMD – Bay Area Air Quality Management District
BMP – Basin Management Plan
CC – Coalinga Canal
CEQA – California Environmental Quality Act
cfs – cubic feet per second
CVP – Central Valley Project
CVPIA – Central Valley Project Improvement Act
CVRWQCB – Central Valley Regional Water Quality Control Board
Delta – Sacramento and San Joaquin River Delta
DMC – Delta Mendota Canal
DWR – Department of Water Resources
EA – Environmental Assessment
EIR- Environmental Impact Report
EIS – Environmental Impact Statement
EPA – United States Environmental Protection Agency
ESA – Endangered Species Act
FWCA – Fish and Wildlife Coordination Act
FWS – U .S. Fish and Wildlife Service
FONSI – Finding of No Significant Impact
GMP – Groundwater Management Plan
ITAs – Indian Trust Assets
IWRP – Integrated Water Resources Plan
MSWD – Mercy Springs Water District
M&I – Municipal and Industrial
NEPA – National Environmental Policy Act
OCAP – Operating Criteria and Plan
O&M – Operations and Maintenance
PEIS/PEIR – Programmatic Environmental Impact Statement/ Programmatic Environmental Impact Report
PVWMA – Pajaro Valley Water Management Agency
Reclamation – U.S. Bureau of Reclamation
ROD – Record of Decision
SCVWD – Santa Clara Valley Water District
SJVAB – San Joaquin Valley Air Basin
SLC – San Luis Canal
SWP – State Water Project
SWRCB – State Water Resource Control Board
WCP – Water Conservation Plan

CHAPTER 1 – BACKGROUND

1.1 BACKGROUND

The U.S. Bureau of Reclamation (Reclamation) and the Pajaro Valley Water Management Agency (PVWMA), Westlands Water District Distribution District No. 1 (WWD), and Santa Clara Valley Water District (SCVWD), propose to renew Long-Term Water Service Contract (Contract No. 14-06-200-3365A) to deliver Central Valley Project (CVP) water to the aforementioned water districts for agricultural and municipal and industrial purposes. PVWMA, WWD and SCVWD are depicted in Figure 1.

On October 30, 1992, the President signed into law the Reclamation Projects Authorization and Adjustment Act of 1992 (Public Law 102-575) that included Title XXXIV, the Central Valley Project Improvement Act (CVPIA). The CVPIA amended the previous authorizations of the CVPIA to include fish and wildlife protection, restoration and mitigation as project purposes having equal priority with irrigation and domestic uses, and fish and wildlife enhancement as a project purpose equal to power generation. Section 3404 (c) of the CVPIA directs the Secretary of the Interior (Secretary) to renew existing CVP water service and repayment contracts following completion of a Programmatic Environmental Impact Statement (PEIS) and other needed environmental documentation by stating with respect to irrigation contracts that:

". . . the Secretary shall, upon request, renew any existing long-term repayment or water service contract for the delivery of water for a period of 25 years and may renew such contracts for successive periods of up to 25 years . . . (after) appropriate environmental review, including preparation of the environmental impact statement {PEIS}… "

Section 3409 of the CVPIA required the Secretary to prepare a PEIS to evaluate the direct and indirect adverse impacts and benefits of implementing the CVPIA. The final PEIS included a Preferred Alternative that addressed the regional impacts and benefits of the general method that Reclamation anticipated of implementing the CVPIA, including the Long-term Contract Renewals, as described in Chapter 3 of this document. The Record of Decision (ROD) for the CVPIA PEIS was finalized in January 2001. It addresses the renewal of long-term CVP water contracts at the programmatic level. However, before individual long-term water contracts can be renewed, site specific environmental documents that tier off of the CVPIA PEIS must be prepared. The purpose of these documents is to evaluate any potential localized impacts that may result from the proposed contract renewal(s), and accordingly, provide the basis for a decision on how best to implement the CVPIA-specific objectives of the new contracts at the individual or multi-district level. This EA provides such an assessment for long-term renewal of the Partial Assignment contract to supply CVP water to PVWMA, WWD and SCVWD.

Prior to 1999, the Mercy Springs Water District (MSWD) was entitled to up to 13,300 acre-feet per year (af/y) of CVP water pursuant to Contract Number 14-06-200-3365A. In 1999, the MSWD assigned 6,260 af/y of its CVP Water Service Contract jointly to the PVWMA, WWD

and SCVWD (Contract No. 14-06-200-3365A-IR3-B)[1]. In conjunction with the assignment, PVWMA, WWD, and SCVWD executed the "Agreement Relating to Partial Assignment of Water Service Contract" (Related Agreement). Generally, the Related Agreement allows SCVWD and WWD to take delivery of the water on an interim basis until PVWMA is ready to take delivery of the CVP water for beneficial use in its service area. Specifically, the Related Agreement allocates the water as follows:

- The SCVWD has first right of refusal before WWD. (a) From 1999 - 2009, the SCVWD has the first right to up to 6,260 af/y, but is limited to a cumulative total of 25% of the total water supply (b) for the period of 2010 – 2119, SCVWD continues to have the first right to up to 6,260 af/y but the cumulative total for SCVWD is increased to the greater of 20,000 af or 25% of the total CVP water supply provided under this contract assignment, and (c) up to 6,260 af/y after year 2019 if PVWMA does not exercise its option to assume the full contract water supply, limited to a maximum of 25% of the total CVP water supply provided under this contract assignment during any 10 year period.

- Use within WWD of (a) up to 6,260 af/y in most years between 1999-2009, (b) up to 6,260 af/y in most years over the period of 2010 – 2019, unless PVWMA decides to assume WWD's portion of this water supply during this same period and (c) up to 6,260 af/y after 2019 if PVWMA does not exercise its option to assume the full contract water supply.

- Potential use within PVWMA of up to 6,260 af/y by providing an option for PVWMA to (a) assume WWD's portion of the water supply between 2010 and 2019 (b) assume the full contract assignment water supply after 2019. If PVWMA exercises its option for the water and then finds it cannot beneficially use the water in their service area, the right to receive the water reverts back to WWD and SCVWD.

In 1993, the PVWMA Board of Directors approved a Basin Management Plan and in 2002 a Revised Basin Management Plan (BMP) for the purpose of managing groundwater supplies and eliminating sea water intrusion into the groundwater basin. The importation of CVP water, including the MSWD Partial Assignment of 6,260 af/y, is one element of the BMP. An EIR for the BMP was certified by PVWMA's Board of Directors in February 2002. A Revised Draft BMP EIS analyzing the impacts of connecting PVWMA's import water facilities to the San Felipe Project facilities and the use of CVP water in PVWMA's service area was circulated for a 60 day public review period which ended November 21, 2003. The BMP EIS examines the use of CVP water and associated impacts in the PVWMA service area, including the 6,260 af/y under long-term Contract No. 14-06-200-3365A.

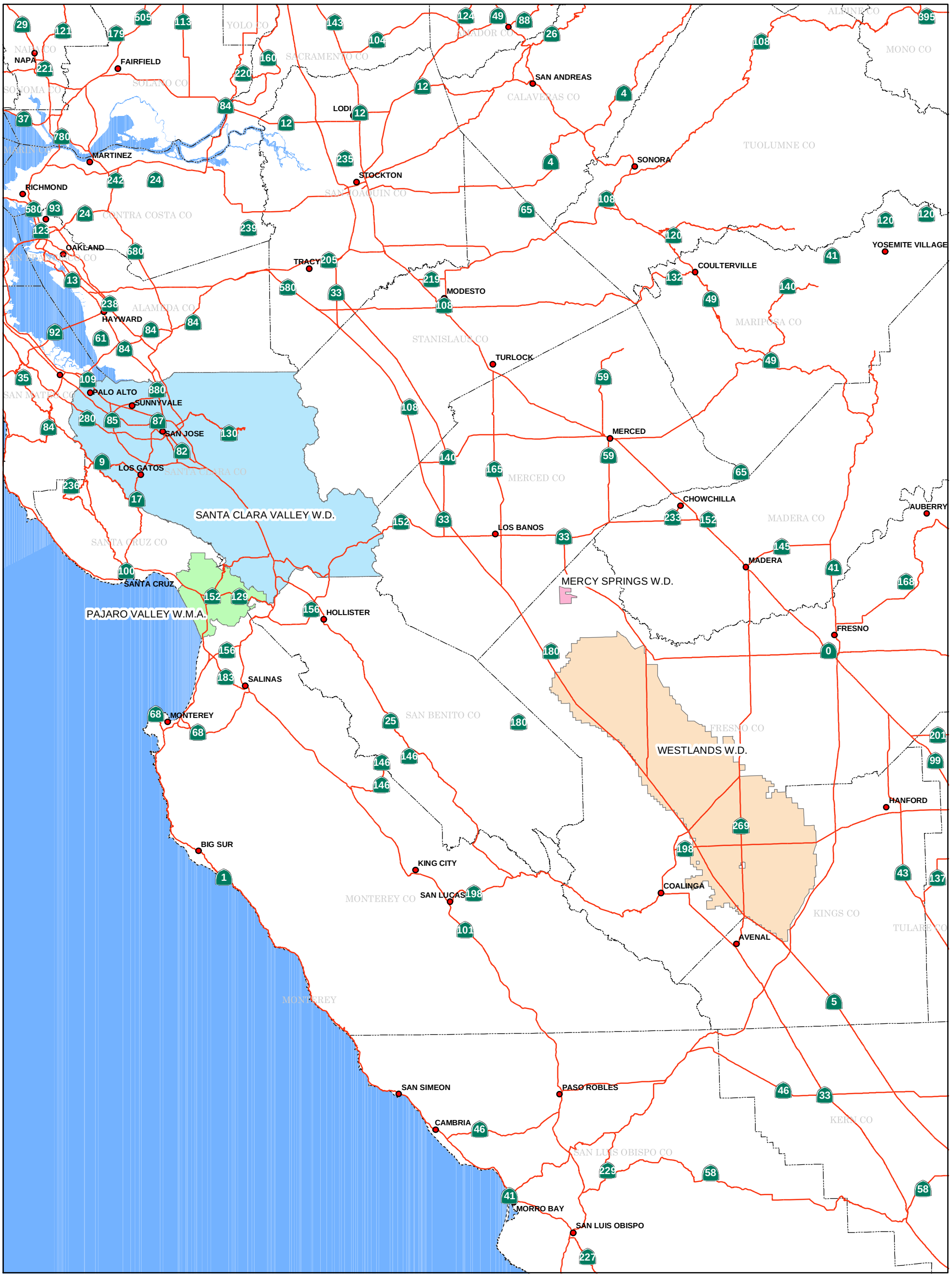
Supporting and previously published environmental documents related to the partial assignment of 6,260 af/y from MSWD to PVWMA, WWD, and SCVWD are discussed in Chapter 4.

[1] The partial assignment was discussed in detail in the Final Environmental Assessment dated April 12, 1999. A Finding of No Significant Impact (FONSI) was also issued on April 12, 1999. Of the remaining 7,040 af/yr of the MSWD's CVP contract, 4,198 af/y has been approved for assignment to WWD for the exclusive use within Distribution District No 2 as described in the *Environmental Assessment for the CVP Water Supply Partial Contract Assignment from Mercy Springs Water District (Contract No. 14-06-200-3365A) to Westlands Water District Distribution District No. 1.* dated 2001. The remaining 2,842 af/y is still used by MSWD. The two latter uses are not part of Contract No. 14-06-200-3365A-IR3B; therefore are not addressed in this EA.

Environmental documents supporting the partial assignment of 6,260 af/y from MSWD to PVWMA, WWD, and SCVWD assessed (1) the impact of the removal of this existing surface water supply (and the entire 13,300 af/y supply) from MSWD and (2) the impact of delivering 6,260 af/y to SCVWD and WWD under the terms and conditions of the then existing MSWD CVP contract and Related Agreement. These environmental documents are hereby incorporated by reference into this EA. This EA, prepared under the National Environmental Policy Act (NEPA), will examine the local effects of the long-term renewal of Contract No. 14-06-200-3365A on the PVWMA, WWD and SCVWD. The PVWMA will not be able to take delivery of CVP water under Contract No 14-06-200-3365A unless or until the proposed pipeline or other mechanism is in place for PVWMA to physically receive this water.

1.2 LOCATION

Locations and boundaries for WWD, PVWMA, and SCVWD are shown in Figures 2, 3 and 4, respectively. WWD is located in the central San Joaquin Valley in western Fresno and Kings Counties. PVWMA and SCVWD are located within the central coast region of California. The PVWMA‘s service area lies mostly in Santa Cruz and Monterey Counties, with a small portion in San Benito County. The SCVWD is responsible for water supply for the entire Santa Clara County.



Legend

Federal Water Districts

Water District Name

- MERCY SPRINGS W.D.
- PAJARO VALLEY W.M.A.
- SANTA CLARA VALLEY W.D.
- WESTLANDS W.D.

Figure 1. Long-Term Contract Renewal

General Location Map

0 5 10 20 30 40 Miles

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MADERA
MERCED CO
Main Canal
Chowchilla Canal
MADERA CO
Gravelly Ford Canal
Outside Canal
a Aqueduct-San Luis
99
168
FRESNO
33
180
WWD Lateral 4-5.5
WWD Lateral 6
WWD Lateral 7
alet Canal
California Aqueduct
145
Cantua Creek
FRESNO CO
Crescent Ditch
SAN BENITO CO
5
WESTLANDS W.D.
San Luis Canal
269
198
Huron
Coalinga Canal
COALINGA
Pixley Canal
KINGS CO
41
198
33
AVENAL
MONTEREY CO
California Aqueduct

Legend

- Westlands WD boundary
- priority area 1
- priority area 2
- priority area 3
- distribution district #1
- distribution district #2

Figure 2. Long-Term Contract Renewal

Westlands Water District
Priority Areas and Distribution Districts

0 1.5 3 6 9 12 Miles

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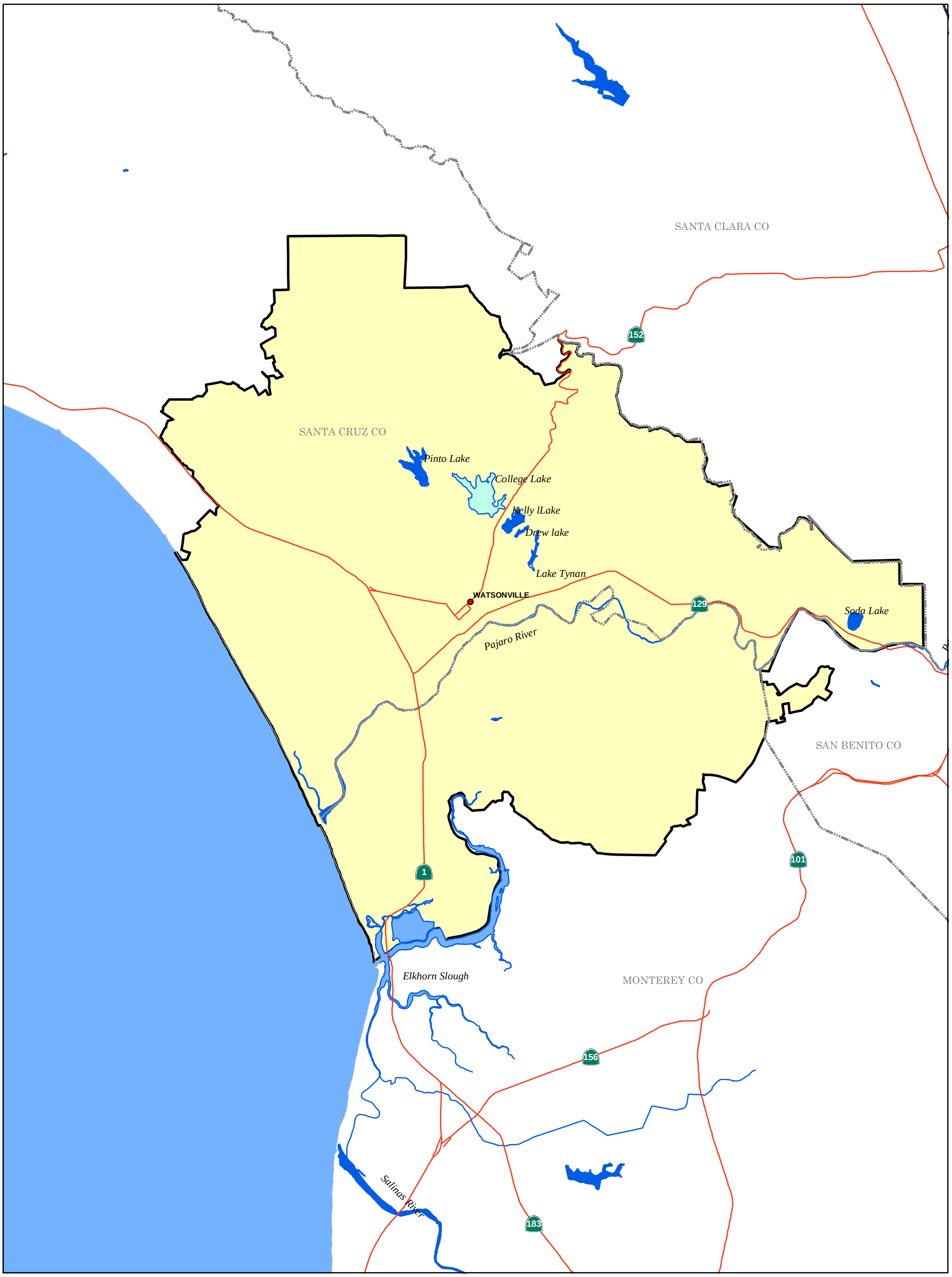

Figure 3. Long-Term Contract Renewal

Pajaro Valley Water Management Area

Legend

Federal Contract Boundary - Service Area

County Boundaries

0 0.5 1 2 3 4 Miles

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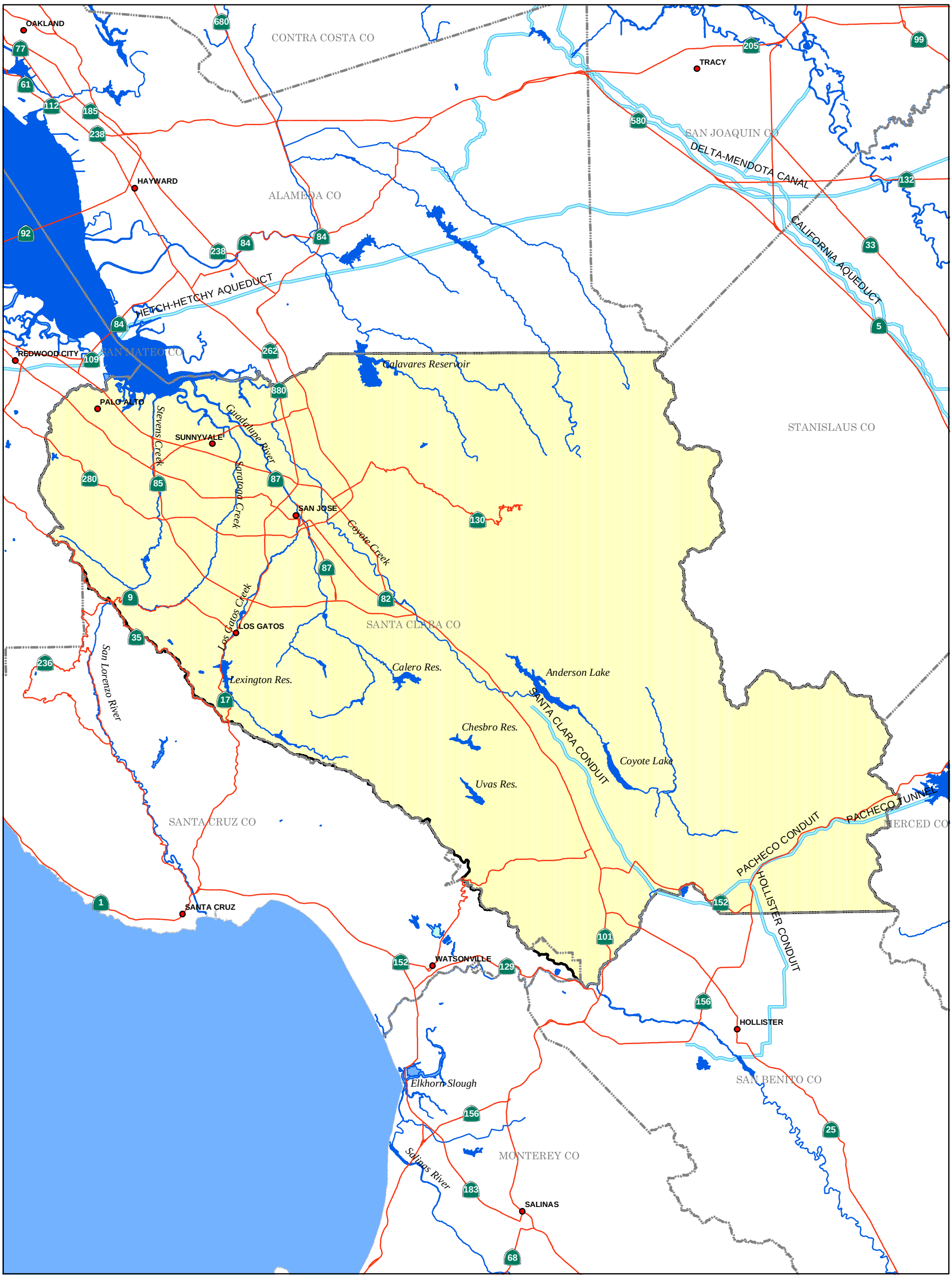

Figure 4. Long-Term Contract Renewal

Santa Clara Valley Water District

Legend

Federal Contract Boundary - Service Area

County Boundaries

0 2 4 8 12 Miles

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1.3 BASIS OF CVP WATER SERVICE CONTRACT RENEWALS

Section 2 of the Reclamation Act of June 17, 1902, requires the Secretary to comply with state laws relating to the control, appropriation, use or distribution of water used in irrigation or vested rights acquired there under. It concludes: "Provided: That the right to the use of water acquired under the provisions of this act shall be appurtenant to the land irrigated and beneficial use shall be the basis, the measure, and the limit of the right."

Section 9(c) of Public Law 88-44, the Reclamation Project Act of 1939, authorizes the Secretary to enter into contracts to furnish municipal water supply either for repayment of construction costs over a period of no more than 40 years, or based upon the payment of rates sufficient to cover an appropriate share of annual and fixed costs for a term not to exceed 40 years. The Reclamation Project Act of 1963 provides the right of renewal of long-term repayment or water service contracts for municipal and industrial contractors, upon the request of the contractor. Terms subject to renegotiation included (1) the charges set forth in the contract in the light of circumstances prevailing at the time of renewal and (2) any other matters with respect to which the right to renegotiate is reserved in the contract.

Section 9(d) of the Reclamation Project Act of 1939 authorizes the Secretary to enter into contracts with organizations furnishing water for irrigation that provide for contractor repayment of construction costs allocated to irrigation by the Secretary in equal annual payments for a period of not more than 40 years, following a development period; Section 9(e) provided for an alternate form of contract to furnish irrigation water, for a period not to exceed 40 years, based on the payment of rates sufficient to collect at least an appropriate share of annual operation and maintenance cost and an appropriate share of such fixed charges as the Secretary deems proper, considering the portion of construction costs allocation to irrigation. The Reclamation Project Act of 1956 requires the Secretary to include in any long-term contract under Section 9(e), if the other party requests, a provision for renewal under stated terms and conditions mutually agreeable to the parties. The same Act provides that subsection 9(e) contracts must include a provision allowing the contracting party to request conversion of the contract to a 9(d) contract. It further states that the other party shall, during the term of the 9(d) or 9(e) contract and of any renewal (subject to fulfillment of other obligations under the contract) have a first right to a stated share of quantity of the Project's available water supply and a permanent right to such share upon repayment of the amount assigned to it for repayment.

The Reclamation Project Act of 1956 provided the right of renewal of long-term repayment or water service contracts for agricultural contractors for a term of not to exceed 40 years. The Reclamation Project Act of 1963 provided the right of renewal of long-term repayment or water service contracts for municipal and industrial contractors. Section 3404(c) of the CVPIA provides that, notwithstanding the 1956 Act, the Secretary shall, upon request, renew any existing long-term repayment or water service contract for the delivery of CVP irrigation water for a period of 25 years and may renew such contracts for successive periods of up to 25 years each.

1.4 BASIS OF RENEWAL OF CONTRACT NUMBER 14-06-200-3365A

The Central Valley Project Authorization Act of 1937 authorized construction of initial CVP project features for navigation, flood control, water storage, construction of distribution systems, and hydropower generation. The Rivers and Harbors Act of 1940 further authorized the construction of CVP facilities and mandated that dams and reservoirs be used first for river regulation, improvement of navigation, and flood control; second for irrigation and domestic users; and third for power. This authorization was amended by the American River Division Authorization Act of 1949, the Trinity River Act of 1955, the San Luis Authorizing Act of 1960, the Rivers and Harbors Act of 1962, the Auburn-Folsom South Unit Authorization Act of 1967; and the San Felipe Division Authorization Act of 1967 (Reclamation and Service, 1999). The CVP facilities include reservoirs on the Trinity, Sacramento, American, Stanislaus, and San Joaquin Rivers and conveyance facilities throughout northern and central California.

The WWD is served by the San Luis Unit of the Delta Division as authorized in 1960. The Delta Division facilities provide for the transport of water through both the San Francisco Bay-Delta Estuary and the Sacramento-San Joaquin River and provide for the delivery of water to CVP contractors in both eastern Contra Costa County and the San Joaquin Valley. The Contra Costa Canal transports water to Contra Costa County. The Delta Cross Channel moves water from the Sacramento River through an excavated channel and natural channels to the Tracy Pumping Plant, which then pumps water into the Delta-Mendota Canal. The Delta-Mendota Canal then delivers water to the west side of the San Joaquin Valley, ending at the Mendota Pool, 30 miles west of the city of Fresno. The San Luis Unit is a link with the State Water Project. Joint-use and Federal-only facilities include the O'Neil Pumping-Generating Plant and Intake Canal, San Luis Dam and Reservoir, Los Banos Dam and Reservoir, Dos Amigos Pumping Plant, Little Panochoe Reservoir, Coalinga Canal, the Pleasant Valley Pumping Plant, and the San Luis Canal from O'Neil Forebay to Kettleman City. The Delta Division provides for the transport of water through the central portion of the Central Valley, including the Sacramento-San Joaquin Delta. It acts as a hub around which the CVP revolves. The Delta Division is complex in its operations, and all features do not operate in conjunction with one another.

The Act of August 27, 1967, authorized the construction, operation, and maintenance of the San Felipe Division as an integrated feature of the CVP. The San Felipe Division is owned by the United States, but operated and maintained by the SCVWD. The San Felipe Division was authorized to provide CVP water service to San Benito County, Santa Clara County, and that portion of Monterey and Santa Cruz counties represented by the PVWMA. Water is conveyed from San Luis Reservoir through the Pacheco Tunnel and Conduit. Water is then conveyed from the Pacheco Conduit into the Santa Clara Conduit to serve SCVWD. As previously mentioned facilities have not yet been constructed for water delivery to the PVWMA service area. The BMP EIS is examining connecting a pipeline to the CVP Santa Clara Conduit of the San Felipe Division.

1.5 RELATED ACTIVITIES

There are several on-going activities related to the long-term Contract Renewal process. The following summarizes Reclamation's activities related to Long-Term Contract Renewals.

Operations Criteria and Plan (OCAP) Update

Reclamation reinitiated ESA consultation on the combined operation of the CVP and SWP in early 2004. This re-consultation addressed the major hydrologic operation of the CVP and SWP including reservoir operations, river releases, and Delta operations including the state and federal export facilities. The initiation of this consultation was necessitated by additional listing of species under the ESA and other changes to water operations that have occurred since the initial consultations. In essence the OCAP consultation addresses the actions taken to make water available to CVP and SWP contractors. The delivery of up to 6,240 af/y to WWD and SCVWD facilities is regulated by OCAP. The effects of continued pumping of this water in accumulation with other CVP contracts was analyzed and addressed in Biological Opinions for OCAP from FWS (1-1-04-F-0140), dated July 30, 2004) and from NOAA Fisheries (151422SWR045A9116:BFO, dated October 22, 2004)

Municipal and Industrial Shortage Policy

The M&I Shortage Policy relates to Article 12 of the long-term contracts. The Draft M&I Shortage Policy, dated September 11, 2001, is available at www.usbr.gov/mp/cvpia/3404c/docs and has not been finalized as of writing this EA. The current shortage policy includes a reduction of 25% for M&I water. The reductions of M&I water would occur under the applicable M&I Shortage Policy.

CHAPTER 2 –PURPOSE AND NEED

2.0 PURPOSE AND NEED

The purpose of the proposed action is to renew Contract No. 14-06-200-3365A-IR3-B in a manner consistent with the provisions of the CVPIA. The project alternatives will include the term and conditions of the contract and tiered water pricing.

Long-term contract renewal is needed to:

- Continue beneficial use of water, developed and managed as part of the CVP, with a reasonable balance among competing demands, including the needs of irrigation and domestic uses; fish and wildlife protection, restoration, and mitigation; fish and wildlife enhancement; power generation; recreation; and other water uses consistent with requirements imposed by the California State Water Resource Control Board and the CVPIA;

- Incorporate certain administrative conditions into the renewal contract to ensure continued compliance with current federal Reclamation law and other applicable statutes; and

- Allow the continued reimbursement to the federal government for cost related to CVP construction and operation.

The need to undertake this action stems from the continuing expiration of the original MSWD contract and the expiration of the subsequent interim renewal contract presently in place. The contracting entities desire to reduce this water supply deficit and provide greater flexibility in light of the continuing shortages in CVP water supplies that are expected for water service contractors south of the Sacramento and San Joaquin River Delta (Delta) due to regulatory constraints in the operation of CVP facilities and other factors. Reference is made to the Final EA and Finding of No Significant Impact for the CVP Water Supply Partial Contract Assignment from MSWD to PVWMA, SCVWD, and WWD dated April 12, 1999.

WESTLANDS WATER DISTRICT NEED

WWD has an existing CVP contract for 1,150,000 af/y of water. Up through 1996, and in all but the driest of years, WWD and their growers have been able to obtain water through water purchases and exchanges from other water purveyors and/or groundwater pumping, water to partially supplement its existing CVP water supply to meet demands.

Since 1987, WWD's water supply has been significantly reduced as a result of drought, CVPIA, ESA, and the Bay-Delta Accord. Congressional, regulatory, and environmental actions have significantly reduced the reliability of WWD's CVP supply. The additional water provided via the assignment directly reduces either (a) the quantity of water to be transferred into WWD from other sources and/or (b) the quantity of groundwater extracted within WWD. Renewal of the existing interim contract is desired for this reason.

SANTA CLARA VALLEY WATER DISTRICT NEED

The SCVWD's June 1999 Integrated Water Resources Plan (IWRP) identifies water demand and needed water supply through the year 2020. The IWRP identified a need for the SCVWD to obtain more reliable dry year water supplies. Although the SCVWD has numerous types of water supplies available (local surface water, local groundwater, recycled wastewater, imported State Water Project water, imported CVP water), most of these supplies vary significantly each year due to climatic conditions and regulatory actions. Under normal and wet year conditions, SCVWD could probably meet demands even at current projected population levels; however, shortages and dry periods are a fact of life in California. SCVWD projections indicate that in a future severe drought the county could experience a water supply shortfall of 100,000 af – almost a third of current local use. In recent years, the SCVWD has expanded its ability to make-up for these reductions in water supplies by increasing water conservation programs, wastewater recycling, temporary transfers, and groundwater banking. The SCVWD is updating its IWRP with the goal of developing a balanced, flexible, long-term water supply plan that can provide a mix of water resources that meets the needs of the county through the year 2040. Securing additional water supplies to make up for shortages due to regulatory actions and hydrologic conditions and to provide a reliable water supply to its current urban and agricultural customers is consistent with the District's IWRP. This is the reason that SCVWD entered into the partial assignment in 1999, and the renewal of the existing interim contract is desired for this reason.

PAJARO VALLEY WATER MANAGEMENT AGENCY NEED

As stated in the BMP EIR, the PVWMA needs to prevent further overdraft of the groundwater basin it manages and to halt seawater intrusion into the aquifer. Overdraft occurs when the amount of groundwater withdrawn from a basin exceeds the sustainable groundwater supply. In the Pajaro Valley basin, groundwater levels have declined as the groundwater pumping rate has exceeded sustainable supply.

In the coastal areas and throughout much of the basin, overdraft conditions have caused groundwater levels to drop below sea level, creating a landward, pressure gradient that causes seawater from the Pacific Ocean to move inland toward areas of depressed groundwater levels, where it mixes with fresh groundwater. The density difference causes the fresh water to stratify above seawater. As seawater encroaches into the fresh groundwater basin, water quality degrades limiting the beneficial use of groundwater for irrigation and domestic purposes, and wells have to be abandoned. The actual progression of seawater intrusion is irregular, with seawater moving into different freshwater aquifers at different times. These conditions are not

expected to improve without the elimination of groundwater pumping in areas adjacent to the coast and development and delivery of additional water supplies. Therefore, the PVWMA has adopted a water supply project[2] that would eliminate groundwater pumping in the area adjacent to the coast and develop additional surface water and recycled water supplies along with a new distribution infrastructure to provide coastal agricultural users with an alternative source of supply. The water supply project includes, among other projects the importation of approximately 13, 400 af/y from outside the basin.

[2] Further information regarding PVWMA's water supply project can be found in the Revised BMP EIR. The Revised BMP EIR can be viewed at http:/www.pvwma.dst.ca.us/.

CHAPTER 3 – PROPOSED ACTION AND ALTERNATIVES

3.0 PROPOSED ACTION AND ALTERNATIVES

This chapter summarizes the long-term water service contract negotiation process and descriptions of the alternatives considered in this EA.

3.1 LONG-TERM WATER SERVICE CONTRACT NEGOTIATION PROCESS

The CVPIA states that the Secretary shall, upon request, renew any existing long-term irrigation repayment or water service contract for the delivery of CVP water for a 25-year period and may renew such contracts for successive periods of up to 25 years each. Consistent with the 1963 Act, contracts for municipal and industrial (M&I) water service shall be renewed for successive periods up to 40 years, each under terms and conditions that are mutually agreeable. The CVPIA also states that no renewals shall be authorized until appropriate environmental review, including the PEIS, has been completed. The PEIS provided a programmatic environmental analysis and identified the need for site-specific environmental documents for the long-term contract renewal process that could incorporate the PEIS analysis by reference to limit the need to re-calculate the region-wide cumulative impacts of the CVPIA.

The CVPIA also states that contracts expiring before the PEIS has been completed may be renewed for interim periods. The interim renewal contracts reflect existing Reclamation law, including modifications resulting from the Reclamation Reform Act and applicable CVPIA requirements. The initial interim contract renewals were negotiated in 1994 with subsequent renewals for periods of two years or less to provide for continued water service. Many of the provisions from the interim contracts were assumed to be part of the contract renewal provisions in the description of the PEIS Preferred Alternative.

In 1998, the long-term contract renewal process was initiated. Reclamation reviewed the interim contract provisions that were consistent with Reclamation law and other requirements, comments from the Draft PEIS, and comments obtained during the interim contract renewal process. Reclamation proposed that the overall provisions of the long-term contract would be negotiated with representatives of all CVP water service contractors. Following the acceptance of the CVP-wide provisions, Reclamation proposed that division-specific provisions and, finally, contractor-specific provisions would be negotiated. Reclamation also proposed that all water service contracts except those for Central San Joaquin Irrigation District, Stockton East Water District, and Colusa Drain Mutual Water Company would be renewed pursuant to this action. Contract renewals for these three districts would be delayed until a water management study for their primary sources of CVP water, the Stanislaus and Sacramento Rivers, had been completed.

Reclamation published the initial proposed contract in November 1999. Several negotiation sessions were held throughout the next six months. The CVP water service contractors published a counterproposal in April 2000. The November 1999 proposal represents one “bookend” for negotiations and the April 2000 proposal represents the basis for the other “bookend.” The

results of the negotiations are reflected in the subsequent proposals. The primary differences between the proposals are summarized in Table 3-1. Table 3-2 compares the environmental consequences of long-term contract renewal Alternatives 1 and 2 to those of the No-Action Alternative.

3.2 ISSUES CONSIDERED AS PART OF LONG-TERM CONTRACT RENEWALS

The long-term contract renewal process addresses several other issues in addition to the contract provisions. These issues include the needs analyses, changes in service areas, and water transfers.

Needs Analysis

The water rights granted to the CVP by the State Water Resources Control Board requires the federal government to determine that CVP water is being used in a beneficial manner. To this end, a needs assessment methodology was developed, specifically for long-term contract renewal analysis, to determine if the contractors could use their full contract amount. This assessment was computed for each contractor within the San Luis Unit using a multiple-step approach. First, the existing water demand for each contractor was calculated based on historic water uses. Crop acreage, cropping patterns, crop water needs, effective precipitation, and conveyance loss information provided by each contractor were reviewed for agricultural water use. Residential, commercial, industrial, institutional, recreational, and environmental uses along with landscape coefficients, system losses, and landscape acreage information provided by each contractor were reviewed for M&I water use. Second, future changes in water demands based upon crops, M&I expansion, and changes in efficiencies were reviewed. Third, existing and future water supplies were identified for each contractor, including groundwater and other surface water supplies. The initial calculation of CVP water needs was limited by the assumption that other (non-federal) water supplies would be used first, and groundwater pumping would not exceed the safe yield of the aquifer. Reclamation did not include any deep percolation, from fields, as recharge. In addition, the actual water needs were calculated at each division or unit level to allow for annual intra-regional transfers.

Beneficial and efficient future water demands were identified for each contractor. The demands were compared to available non-CVP water supplies to determine the need for CVP water. If the negative amount (unmet demand) is within 10% of their total supply for contracts >15,000 af/yr, or within 25% for contracts ≤15,000 af/yr, the test of full future need of the water supplies under the settlement contract is deemed to be met. Because the CVP was initially established as a supplemental water supply for areas with inadequate supplies, the needs for most contractors were at least equal to the CVP water service contract and frequently exceeded the previous contract amount. Increased total contract amounts were not included in the needs assessment because the CVPIA stated that Reclamation cannot increase contract supply quantities. The analysis for the Water Needs Assessment did not consider that ability of the CVP to deliver CVP water has been constrained in recent years and may be constrained in the future due to many factors including hydrologic conditions and implementation of federal and state laws. The likelihood of the contractors actually receiving the full contract amount in any given year is uncertain.

Changes in Water Service Areas

This environmental analysis does not consider future changes in water service area boundaries for the use of CVP water. Any future changes to water service area boundaries for the use of CVP water will be evaluated in separate technical and environmental analyses.

Water Transfers

Several different types of transfers are considered for long-term contract renewals. Intra-CVP contract transfers have occurred regularly throughout the CVP and are frequently limited to scheduling changes between adjoining districts. Reclamation has historically issued and will continue to address these types of transfers under separate environmental documents.

3.3 DEVELOPMENT OF ALTERNATIVES

Three alternatives were identified for the renewal of this long-term contract. The alternatives present a range of water service agreement provisions that could be implemented for long-term contract renewals. The first alternative, the No-Action Alternative, consists of renewing existing water service contracts as described by the Preferred Alternative of the PEIS. In November 1999, Reclamation published a proposed long-term water service contract for use throughout the CVP, with a reservation for certain Division specific provisions. In April 2000, the CVP Contractors presented an alternative long-term water service contract. Reclamation and the CVP Contractors have continued to negotiate the CVP-wide terms and conditions and recently reached some agreement on CVP-wide contract provisions. This EA also considers this proposal with the No-Action Alternative and Preferred Alternative represented by the CVP-wide agreement as bookends to be considered for the environmental documentation to evaluate the impacts and benefits of renewing long-term water service contracts. The alternatives are described in Table 3-1.

3.3.1 NO ACTION

The No-Action Alternative assumes renewal of long-term CVP water service contracts for a 25-year period in accordance with implementation of the CVPIA as described in the PEIS Preferred Alternative. The PEIS Preferred Action assumed that most contract provisions would be similar to many of the provisions in the 1997 CVP Interim Renewal Contracts, which included contract terms and conditions consistent with applicable CVPIA requirements. In addition, the No-Action Alternative assumed tiered pricing provisions and environmental commitments as described in the PEIS Preferred Alternative.

These provisions were described in the Final PEIS. Several applicable CVPIA provisions are summarized in the description of the No-Action Alternative because these provisions differ in Alternatives 1 and/or 2. This difference could result in changes in environmental impacts or benefits. These issues include tiered water pricing, definition of M&I water users, water measurement, and water conservation.

Tiered Water Pricing

Tiered water pricing in the No-Action Alternative is based upon the use of an "80/10/10 Tiered Water Pricing from Contract Rate to Full Cost" approach including appropriate ability-to-pay limitations. The terms Contract Rate and Full Cost Rate are defined by CVP rating setting policies and PL 99-546 and the Reclamation Reform Act, respectively. The Contract Rate for irrigation and M&I water includes the contractor's allocated share of CVP main project operation and maintenance (O&M) expenses, O&M deficit, if any, and capital cost. The contract rate for irrigation water does not include interest on capital. The contract rate for M&I water includes interest on capital, computed at the applicable interest rate. The Full Cost Rate for irrigation and M&I water includes the interest at the Reclamation Reform Act interest rate. Under this approach, the first 80 percent of maximum contract total would be priced at the applicable Contract Rate. The next 10 percent of the contract volume would be priced at a value equal to the average of the Contract Rate and Full Cost Rate. The final 10 percent of the contract volume would be priced at Full Cost Rate.

Table 3-1
Comparison of Contract Provisions Considered in Alternatives

Provision	No-Action Alternative Based on PEIS and Interim Contracts	Alternative 1 Based on April 2000 Proposal	Alternative 2 Based on November 1999 Proposal	Preferred Alternative Final Negotiated Contract
Explanatory Recitals	Assumes water rights held by CVP from the State Water Resources Control Board for use by water service contractors under CVP policies	Assumes CVP Water Right as being held in trust for project beneficiaries that may become the owners of the perpetual right	Similar to the No-Action Alternative	Similar to the NAA
	Assumes that CVP is a significant part of the urban and agricultural water supply of users	Assumes CVP as a significant, essential, and irreplaceable part of the urban and agricultural water supply of users	Same as No-Action Alternative	Assumes has been relied upon and considered essential by contractors
	Assumes increased use of water rights, need to meet water quality standards and fish protection measures, and other measures constrained use of CVP	Assumes that CVPIA impaired ability of CVP to deliver water	Same as No-Action Alternative	No recital concerning this issue
	Assumes the need for the 3408(j) study	Assumes implementation of yield increase projects per 3408(j) study	Same as No-Action Alternative	Assumes Secretary through coordination, cooperation and partnership will pursue measures to improve water supply, quality and reliability of the Project for all Project purposes

Table 3-1
Comparison of Contract Provisions Considered in Alternatives

Provision	No-Action Alternative Based on PEIS and Interim Contracts	Alternative 1 Based on April 2000 Proposal	Alternative 2 Based on November 1999 Proposal	Preferred Alternative Final Negotiated Contract
	Assumes that loss of water supply reliability would have impact on socioeconomic conditions and change land use	Assumes that loss of water supply reliability would have significant adverse socioeconomic and environmental impacts in CVP service area	Same as No-Action Alternative	No recital concerning this issue
Definitions				
Charges	Charges defined as payments required in addition to Rates	Assumes rewording of definition of Charges to exclude both Rates and Tiered Pricing Increments	Same as No-Action Alternative	Same as Alternative 1
Category 1 and Category 2	Tiered Pricing as in PEIS	Not included	Tiered Pricing for Categories 1 and 2	Same as Alternative 1
Contract Total	Contract Total described as Total Contract	Same as No-Action Alternative	Described as basis for Category 1 to calculate Tiered Pricing	Similar to No-Action Alternative
Landholder	Landholder described in existing Reclamation Law	Assumes rewording to specifically define Landholder with respect to ownership, leases, and operations	Assumes rewording to specifically define Landholder with respect to ownership and leases	Same as No-Action Alternative
M&I water	Assumes rewording to provide water for irrigation of land in units less than or equal to five acres as M&I water unless Contracting Officer is satisfied use is irrigation	M&I water described for irrigation of land in units less than or equal to 2 acres	Same as No-Action Alternative	Same as No-Action Alternative
Term of contract—right to use contract	Assumes that contracts may be renewed	States that contract shall be renewed	Same as No-Action Alternative	Assumes contracts shall be renewed subject to the RRA 1956 and 1963
Conversion to Repayment Contract	Assumes convertibility of contract to a 9(d) same as existing contracts	Includes conditions that are related to negotiations of the terms and costs associated with conversion to a 9(d) contract	Same as No-Action Alternative	Sets 10 years from execution, as date of which determination on conversion shall be made
Water to be made available and delivered to the contractor	Assumes water availability in accordance with existing conditions	Similar to No-Action Alternative	Actual water availability in a year is unaffected by Categories 1 and 2	Similar to NAA

Table 3-1
Comparison of Contract Provisions Considered in Alternatives

Provision	No-Action Alternative Based on PEIS and Interim Contracts	Alternative 1 Based on April 2000 Proposal	Alternative 2 Based on November 1999 Proposal	Preferred Alternative Final Negotiated Contract
	Assumes compliance with Biological Opinions and other environmental documents for contracting	Same as NAA	Same as No-Action Alternative	Similar to NAA and compliance is within the contractor's legal authority to implement
Time for delivery of water	Assumes methods for determining timing of deliveries as in existing contracts	Assumes minor changes related to timing of submittal of schedule	Same as No-Action Alternative	Same as No-Action Alternative
Point of diversion and responsibility for distribution of water	Assumes methods for determining point of diversion as in existing contracts	Assumes minor changes related to reporting	Same as No-Action Alternative	Same as No-Action Alternative
Measurement of water within district	Assumes measurement for each turnout or connection for facilities that are used to deliver CVP water as well as other water supplies	Assumes measurement at delivery points	Assumes similar actions in No-Action Alternative but applies to all water supplies	Same as Alternative 2 with an addition of allowing SCVWD to ensure that's wholesaler comply with measuring requirements
Rates and method of payment for water	Assumes payment of cost-of-service rates pursuant to rate-setting policy; payment of rates for first two months of scheduled deliveries with submission of delivery schedule each year; payment before end of month for net succeeding month's deliveries thereafter; assumes payment for charges before end of month following delivery; assumes obligation to pay Tiered Pricing Component on same schedule as charges; tiered pricing applies to deliveries over 80% of Contract Total.	Same as No-Action Alternative.	Same as No-Action Alternative, but advanced payment for rates for six months	Same as No-Action Alternative

Table 3-1
Comparison of Contract Provisions Considered in Alternatives

Provision	No-Action Alternative Based on PEIS and Interim Contracts	Alternative 1 Based on April 2000 Proposal	Alternative 2 Based on November 1999 Proposal	Preferred Alternative Final Negotiated Contract
Non-interest-bearing operation and maintenance deficits	Assumes language from existing contracts	Same as No-Action Alternative	Same as No-Action Alternative	Same as No-Action Alternative
Sales, transfers, or exchanges of water	Assumes continuation of transfers with the rate for transferred water being the higher of the seller's or purchaser's CVP cost-of-service rate	Assumes continuation of transfers with the rate for transferred water being the purchaser's CVP cost-of-service rate plus incremental fees	Same as No-Action Alternative	Assumes continuation of transfers with rate in accordance with Reclamation policy
Application of payments and adjustments	Assumes payments will be applied as in existing contracts	Assumes minor changes associated with methods described for overpayment	Same as No-Action Alternative	Similar to Alternative 1 but requires $1,000 or greater overpayment for refund.
Temporary reduction—return flows	Assumes that current operating policies strive to minimize impacts to CVP water users	Same as No-Action Alternative	Same as No-Action Alternative	Same as No-Action Alternative
Constraints on availability of project water	Assumes that current operating policies strive to minimize impacts to CVP water users	Assumes Contractors do not consent to future Congressional enactments which may impact water supply reliability	Same as No-Action Alternative	Same as No-Action Alternative
Unavoidable groundwater percolation	Assumes that some of applied CVP water will percolate to groundwater	Same as No-Action Alternative	Same as No-Action Alternative	Same as No-Action Alternative
Rules and regulations	Assumes that CVP will operate in accordance with then-existing rules	Assumes minor changes with right to not concur with future enactments retained by Contractors	Same as No-Action Alternative	Same as No-Action Alternative
Water and air pollution control	Assumes that CVP will operate in accordance with then-existing rules	Same as No-Action Alternative	Same as No-Action Alternative	Same as No-Action Alternative
Quality of water	Assumes that CVP will operate in accordance with existing rules without obligation to operate toward water quality goals	Same as No-Action Alternative	Same as No-Action Alternative	Same as No-Action Alternative

Table 3-1
Comparison of Contract Provisions Considered in Alternatives

Provision	No-Action Alternative Based on PEIS and Interim Contracts	Alternative 1 Based on April 2000 Proposal	Alternative 2 Based on November 1999 Proposal	Preferred Alternative Final Negotiated Contract
Water acquired by the contractor other than from the United States	Assumes that CVP will operate in accordance with existing rules	Assumes changes associated with payment following repayment of funds	Same as No-Action Alternative	Same as No-Action Alternative
Opinions and determinations	PEIS recognizes that CVP will operate in accordance with existing rules	Assumes minor changes with respect to references to the right to seek relief	Same as No-Action Alternative	Similar to Alternative 1
Coordination and cooperation	Not included	Assumes that coordination and cooperation between CVP operations and users should be implemented and CVP users should participate in CVP operational decisions as a partnership	Not included	Similar to Alternative 1, 120 days after execution parties will develop a written process for obtaining mutual cooperation and coordination
Charges for delinquent payments	Assumes that CVP will operate in accordance with existing rules	Same as No-Action Alternative	Same as No-Action Alternative	Same as No-Action Alternative
Equal opportunity	Assumes that CVP will operate in accordance with existing rules	Same as No-Action Alternative	Same as No-Action Alternative	Same as No-Action Alternative
General obligation	Assumes that CVP will operate in accordance with existing rules	Similar to No-Action Alternative	Same as No-Action Alternative	Similar to Alternative 1 assumes no requirement for contractor to levy their customers in advance
Compliance with civil rights laws and regulations	Assumes that CVP will operate in accordance with existing rules	Same as No-Action Alternative	Same as No-Action Alternative	Same as No-Action Alternative
Privacy act compliance	Assumes that CVP will operate in accordance with existing rules	Same as No-Action Alternative	Same as No-Action Alternative	Same as No-Action Alternative
Contractor to pay certain miscellaneous costs	Assumes that CVP will operate in accordance with existing rules	Similar to No-Action Alternative	Same as No-Action Alternative	Same as No-Action Alternative

Table 3-1
Comparison of Contract Provisions Considered in Alternatives

Provision	No-Action Alternative Based on PEIS and Interim Contracts	Alternative 1 Based on April 2000 Proposal	Alternative 2 Based on November 1999 Proposal	Preferred Alternative Final Negotiated Contract
Water conservation	Assumes compliance with conservation programs established by Reclamation and the State of California	Assumes conditions similar to No-Action Alternative with the ability to use State of California standards, which may or may not be identical to Reclamation's requirements	Same as No-Action Alternative	Same as No-Action Alternative
Existing or acquired water or water rights	Assumes that CVP will operate in accordance with existing rules	Same as No-Action Alternative	Same as No-Action Alternative	Same as No-Action Alternative
Operation and maintenance by non-federal entity	Assumes that CVP will operate in accordance with existing rules and no additional changes to operation responsibilities under this alternative	Assumes minor changes to language that would allow subsequent modification of operational responsibilities	Assumes minor changes to language that would allow subsequent modification of operational responsibilities	Same as Alternative 2 recognition of SLDMWA O&M agreement and DWR O&M agreement
Contingent on appropriation or allotment of funds	Assumes that CVP will operate in accordance with existing rules	Assumes minor changes to language	Same as No-Action Alternative	Same as No-Action Alternative
Books, records, and reports	Assumes that CVP will operate in accordance with existing rules	Assumes changes for record keeping for both CVP operations and CVP users	Same as No-Action Alternative	Similar to Alternative 1, but limit requests to only those records and books that deal with contract administration
Assignment limited	Assumes that CVP will operate in accordance with existing rules	Assumes changes to facilitate assignments	Same as No-Action Alternative	Similar to Alternative 1 in accordance with Reclamation assignment policies
Severability	Assumes that CVP will operate in accordance with existing rules	Same as No-Action Alternative	Same as No-Action Alternative	Same as No-Action Alternative
Resolution of disputes	Not included	Assumes a Dispute Resolution Process	Not included	Similar to Alternative 1
Officials not to benefit	Assumes that CVP will operate in accordance with existing rules	Same as No-Action Alternative	Same as No-Action Alternative	Same as No-Action Alternative
Changes in contractor's service area	Assumes no change in CVP water service areas absent Contracting Officer consent	Assumes changes to limit rationale used for non-consent and sets time limit for assumed consent.	Same as No-Action Alternative	Similar to NAA with addition of a 30 day requirement for CO to notify contractor of additional information needed

Table 3-1
Comparison of Contract Provisions Considered in Alternatives

Provision	No-Action Alternative Based on PEIS and Interim Contracts	Alternative 1 Based on April 2000 Proposal	Alternative 2 Based on November 1999 Proposal	Preferred Alternative Final Negotiated Contract
Notices	Assumes that CVP will operate in accordance with existing rules	Same as No-Action Alternative	Same as No-Action Alternative	Same as No-Action Alternative
Confirmation of contract	Assumes Court confirmation of contract	Assumes court confirmation	Same as No-Action Alternative	Similar to Alternative 2 however, provision that contract not binding until court confirms is deleted

In addition to the CVP water rate, contractors are required to pay Restoration Fund payments on all deliveries of CVP water. Reclamation law and policy provides full or partial relief to irrigation contractors on Restoration Payments and the capital rate component of the water rate. Ability-to-pay relief, relative to the irrigation water rate, is fully applicable only to the first 80 percent of the contract total. Ability-to-pay relief is not applicable to the third tier water rate. The second tier may reflect partial relief. Ability-to pay relief is equal to the average of the first and third tiers. The relief could be up to 100 percent of the capital cost repayment and is based upon local farm budgets. The ability-to pay law and policy do not apply to CVP operation and maintenance costs, M&I water costs, or any non-CVP costs.

The prices for CVP water used under this contract in the No-Action Alternative are based upon 1994 irrigation and M&I CVP water rates.

Definition of M&I Users

The definition of M&I users was established in portions of a 1982 Reclamation policy memorandum. In many instances, municipal users are easily defined. However, with respect to small tracts of land, the 1982 memorandum defined agricultural water as agricultural water service to tracts that can support $5,000 gross income for a commercial farm operation. The memorandum indicates that the criteria can be met by parcels greater than two acres. Based on this analysis, the CVP has generally applied a definition of five acres or less for M&I uses in the CVP for many years. The CVP contractors can seek a modification for a demonstrated need of agricultural use on parcels between two and five acres in size and may request such a modification from the Contracting Officer.

Water Measurement

The No-Action Alternative includes water measurement at every turnout or connection to measure CVP water deliveries. In the case of SCVWD, he District maintains meters at its points of interconnections with its retail customers. The retail customers in turn maintain meters or other measuring devices with the end users. It is assumed that if other sources are commingled with the CVP water, including groundwater or other surface waters, the measurement devices would report gross water deliveries. Additional calculations would be required to determine the exact quantity of CVP water. However, if groundwater or other surface waters are delivered by

other means to the users, the No-Action Alternative did not include additional measurement devices except as required by the individual user's water conservation plan.

Water Conservation

The water conservation assumptions in the No-Action Alternative include water conservation actions for municipal and on-farm uses assumed in the California Department of Water Resources Bulletin 160-93 and conservation plans completed under the 1982 Reclamation Reform Act consistent with the criteria and requirements of the CVPIA. Such criteria address cost-effective Best Management Practices that are "economical and appropriate," including measurement devices, pricing structures, demand management, public information, and financial incentives. While measurement and pricing structures are required, they are not held to the "economical and appropriate" test.

3.3.2 ALTERNATIVE 1

Alternative 1 is based upon the proposal presented by the CVP water service contractors to Reclamation in April 2000. However, several issues included in the April 2000 proposal could not be included in Alternative 1 because they are not consistent with existing federal or state requirements or would require a separate federal action, as described below.

- The CVP Contractors requested provisions committing Reclamation to provide a highly reliable water supply of a high water quality and provisions to improve the water supply capabilities of the CVP facilities and operations to meet this goal. These issues were not included in Alternative 1 because they would require additional federal actions with separate environmental documentation and also limit the Secretary's obligation to achieve a reasonable balance among competing demands, as required by the CVPIA. At present, Reclamation has completed the least cost plan to restore project yield in accordance with Section 3408(j) of CVPIA and under the CALFED program.

- The April 2000 proposal includes language to require renewal of contracts after 25 years upon request of the contractor. The study period for this EA is 25 years, which coincides with the contract period applicable to irrigation contracts required by CVPIA. Renewal after 25 years would be a new Federal Action and would require new environmental documentation.

- The April 2000 proposal did not include provisions for compliance with biological opinions. Biological consultations are required by the Consultation and Coordination requirements established by Executive Order for all Reclamation activities. These are binding on Reclamation and provisions are needed to address this requirement.

- The April 2000 proposal included provisions for water transfers. It is recognized that water transfers will continue and that the CVP long-term contracts will provide the mechanisms for the transfers. However, it would be difficult to identify all of the water transfer programs that could occur with CVP water in the next 25 years. Reclamation would continue with separate environmental documents for transfers, establishing criteria to allow rapid technical and environmental review of proposed transfers.

- The April 2000 proposal includes provisions for transfer of operations and maintenance requirements. It is recognized that transfers of operation and maintenance requirements to the group of contractors will continue and that the CVP long-term contracts will provide the mechanisms for such transfers. However, it would be difficult to identify all of the operation and maintenance transfer programs that could occur with CVP water in the next 25 years. Reclamation would require separate environmental documents for such transfers.

- The April 2000 proposal includes provisions for resolution of disputes. Assumptions for resolution of disputes were not included in Alternative 1 and at this time would not appear to affect environmental conditions.

- The April 2000 proposal includes provisions for expansion of the CVP service areas by the existing CVP water contractors. The study area for the long-term contract renewal process is defined by the existing service area boundaries. Expansion of the service area boundaries would be a new Federal Action and would require separate environmental documentation.

- The April 2000 proposal did include several provisions that were different than the assumptions for No Action Alternative and these provisions are included in Alternative 1, as summarized in Table 3-1.

- The April 2000 proposal also included several provisions that involve specific language changes that would not significantly modify CVP operations in a manner that would affect the environment as compared to the No-Action Alternative, but could affect specific operations of a contractor, as described in Table 3-1.

It should be noted that the tiered pricing assumptions (including unit prices for CVP water) and definition of M&I users in Alternative 1 would be the same as in the No-Action Alternative.

3.3.3 ALTERNATIVE 2

Alternative 2 is based upon the proposal presented by Reclamation to CVP water service contractors in November 1999. However, several provisions included in the November 1999 proposal could not be included in Alternative 2 because they would require a separate Federal Action, as described below.

- The November 1999 proposal included provisions for the contractor to request approval from Reclamation of proposed water transfers. Water transfers were not included in Alternative 2 because such actions cannot now be definitely described, essentially constitute a separate Federal Action, and would require separate environmental documentation.

- The November 1999 proposal includes provisions for transfer of operations and maintenance to third parties. Operations and maintenance transfers were not included in Alternative 2 because these actions would be a separate Federal Action and would require separate environmental documentation.

The November 1999 proposal did include several provisions that were different than the assumptions for No-Action Alternative and included in Alternative 2, as summarized below and

in Table 3-1. The primary differences are related to tiered pricing and the definition of M&I users.

Tiered Water Pricing

Tiered water pricing in Alternative 2 is based upon a definition of Category 1 and Category 2 water supplies. Category 1 is defined as the quantity of CVP water that is reasonably likely to be available for delivery to a contractor and is calculated on an annual basis as the average quantity of delivered water during the most recent five-year period. For the purposes of this alternative, the Category 1 water supply is defined as the "contract total." Category 2 is defined as that additional quantity of CVP water in excess of Category 1 water that may be delivered to a contractor in some years. Under Alternative 2, the first 80 percent of Category 1 volume would be priced at the applicable Contract Rate for the CVP. The next 10 percent of the Category 1 volume would be priced at a rate equal to the average of the Contract Rate and Full Cost Rate as defined by Reclamation law and policy. The terms Contract Rate and Full Cost Rate are defined by the Reclamation Reform Act. The Contract Rate is equal to O&M expenses, O&M deficit, if any, and capital costs without interest on capital. The Full Cost Rate includes the interest charges. The final 10 percent of the Category 1 volume would be priced at Full Cost Rate as required by the CVPIA. All Category 2 water, when available, would be priced at Full Cost Rate. It should be noted that Category 1 and Category 2 volumes will change every year based upon the average deliveries for the "most recent 5 years," with limited exception, based upon the findings of the water needs assessment. Alternative 2 assumes that the sum of Category 1 and Category 2 water is equal to the maximum quantity included in the contractor's existing water service contract. The quantity is the same as the No-Action Alternative and Alternative 1. The terms Contract Rate and Full Cost Rate are discussed under Tiered Pricing for the No-Action Alternative. The same ability-to-pay adjustments would be applicable to Restoration Fund payments and tiered water rates as described in the No-Action Alternative.

The prices of CVP water used in Alternative 2 are based upon irrigation and M&I CVP water rates presented in the November 17, 1999 Financial Workshop Handouts 1 and 2.

Definition of M&I Users

The definition of M&I water includes all tracts less than or equal to five acres unless the Contracting Officer is satisfied that the use of such water meets the definition of "irrigation water."

3.4 ALTERNATIVES CONSIDERED BUT ELIMINATED

Non-renewal of Long-Term Contracts

Non-renewal of the existing interim contract is considered infeasible based on Section 3404(c) of the CVPIA. This alternative was considered but eliminated from analysis in this EA because Reclamation has no discretion not to renew the contracts.

Reduction in Contract Amounts

Reduction of contract amounts was considered in certain cases, but has been rejected from the analysis for this contract renewal. The reason for this is twofold. First, water needs analyses have been completed for all contracts, and in almost all cases, the needs exceed or equal the

current total contract amount. Second, in order to implement good water management, the contractors need to be able to store or immediately use water available in wetter years when more water is available. By quantifying contract amounts in terms of the needs analyses and the CVP delivery capability, the contractors can make their own economic decisions. Allowing the contractors to retain the full water quantity gives them assurance that the water will be available to them for storage investments. In addition the CVPIA, in and of itself, achieves a balance, in part through its dedication of significant amounts of CVP water and actions to acquire water for environmental purposes.

3.5 SELECTION OF THE PREFERRED ALTERNATIVE

It is anticipated that the final contract language and the long-term contract renewal Preferred Alternative will represent a negotiated position between Alternatives 1 and 2. Therefore, it is anticipated that the environmental consequences of the Preferred Alternative will be either equal to or less than those identified for Alternative 1, Alternative 2, or No-Action Alternative.

CHAPTER 4 – SUMMARY OF PREVIOUS AND RELATED ENVIRONMENTAL DOCUMENTATION

4.0 INTRODUCTION

The purpose of this chapter is to summarize the results of completed NEPA and California Environmental Quality Act (CEQA) documents that address water service to WWD, SCVWD, and PVWMA pursuant to Contract No. 14-06-200-3365A and other relevant NEPA/CEQA documents. It should be recognized that under each of the descriptions presented in this chapter, references to "No-Action Alternative" and other alternatives are specific to the referenced documents, and not to references otherwise made in this EA.

4.1 PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

Through implementation of the CVPIA, Interior is developing policies and programs to improve environmental conditions that were affected by operations, management, and physical facilities of the CVP. The CVPIA also includes tools to facilitate larger efforts in California to improve environmental conditions in the Central Valley and the San Francisco Bay-Delta system. The PEIS addressed potential impacts and benefits of implementing provisions of the CVPIA. The PEIS was prepared by Reclamation and the U.S. Fish and Wildlife Service (FWS).

The analysis in the PEIS was intended to disclose the probable region-wide effects of implementing the CVPIA and provide a basis for making a decision among the alternatives. The PEIS was developed to allow subsequent environmental documents to incorporate the PEIS analysis by reference and limit the need to re-evaluate the region wide and cumulative impacts of the CVPIA. In some cases, worst-case assumptions were used to maximize the utility of the analysis for tiering within the scope of the impacts analyzed in the PEIS.

As the project-specific actions are considered, the lead agencies must determine if the specific impacts were adequately analyzed in the PEIS. If the actions under consideration had been previously evaluated and the impacts of such actions would not be greater than those analyzed in the PEIS or would not require additional mitigation measures, the actions could be considered part of the overall program approved in the PEIS Record of Decision. In such a case, an administrative decision could be made that no further environmental documentation could be necessary. If a tiered document is appropriate, the tiered document may be an EIS or an EA. The tiered documents can use the PEIS by reference to avoid duplication and focus more narrowly on the new alternatives or more detailed site-specific effects. Therefore, only changes from the alternatives considered in the PEIS would be addressed in detail in the tiered documents.

Summary of Overall Analysis of PEIS Alternatives

The alternatives considered in the PEIS were analyzed to determine the potential for adverse and beneficial impacts associated with implementation of all actions as compared to continuation of the PEIS No-Action Alternative conditions. The most significant changes under the alternatives as compared to the PEIS No-Action Alternative were related to surface water and groundwater

facilities operations and deliveries, power generation, fishery resources, agricultural land use and economics, and waterfowl habitat. Due to the integrated nature of the PEIS alternatives, it is not possible to determine if the impacts and benefits would occur due to a specific CVPIA provision or goal. The impacts and benefits of a PEIS alternative are due to the overall implementation of CVPIA as compared to conditions without implementation of CVPIA in the No-Action Alternative.

Localized Impacts of CVPIA Implementation on Water Service Contractors

The primary impact to CVP water service contractors, as described in the PEIS, is not due to contract provisions, but rather to the implementation of the CVPIA. The reallocation of CVP water for fish and wildlife purposes under the CVPIA reduced average annual CVP water deliveries to water service contractors from 2,270,000 acre-feet per year under the PEIS No-Action Alternative to 1,933,000 acre-feet per year under all of the PEIS alternatives, including the Preferred Alternative. The reduction occurred differently for Delta-Mendota Canal Unit users, as summarized below.

- Average annual CVP water deliveries for agricultural water service contractors located in the Delta-Mendota Canal Unit decreased 42 percent from pre-CVPIA Affected Environment conditions.

- Average annual CVP water deliveries for municipal water service contractors located in the Delta-Mendota Canal Unit decreased 6 percent from pre-CVPIA Affected Environment conditions.

There was no change in deliveries to water rights holders, Sacramento River Settlement Contractors, or San Joaquin River Exchange Contractors under CVPIA implementation.

Impacts and Benefits to Long-Term Water Service Contract Renewals in the PEIS

The PEIS No-Action Alternative did assume renewal of existing contracts for total contract amounts, as previously described, for a 40-year period based upon contract provisions of the 1994 interim contract renewal provisions. The PEIS alternatives assumed renewal of contracts for the same amounts as included in the PEIS No-Action Alternative; therefore, there would be no impacts or benefits under the PEIS alternatives for renewing CVP contracts at the same contract amounts. The PEIS alternatives assumed a 25-year contract period, which coincided with the PEIS study period; therefore, it was not possible to evaluate impacts associated with a change in contract periods.

Implementation of Long-Term Water Service Contract Renewals

The PEIS was intended to provide the basis for a decision on whether to implement most of the CVPIA provisions. However, the decision maker recognized that additional analysis might be needed to reach a final decision on how to implement any of the provisions.

The Record of Decision (ROD) based on the PEIS included a decision to renew water service contracts in accordance with the requirements of the CVPIA, including terms for water measurement and conservation that will result in their renewal for irrigation contracts, a 25 year period. This included a decision to implement tiered pricing, at a minimum, based on the

"80/10/10 Tiered Water Pricing up to Full Cost Approach". The PEIS assumed that subsequent NEPA documentation for long-term contract renewals would include a summary of a needs analysis and environmental evaluations at a contractor specific level.

4.2 PRIOR ENVIRONMENTAL DOCUMENTS RELATED TO THE CONTRACT

The Proposed Action provides for the renewal of Contract Number 14-06-200-3365A-IR3-B, which would allow for continued delivery of water pursuant to a prior assignment from MSWD to PVWMA, SCVWD and WWD. The prior assignment was a legal action whereby Reclamation contractually agreed to provide to these three water agencies under specific terms, a portion of the CVP water that was once delivered to MSWD. That assignment reduced delivery of CVP water to the MSWD. Previously published environmental documents prepared on the assignment, discussed below, assessed (1) the impact of the removal of this existing surface water supply (and the entire 13,300 af/y supply) from MSWD and (2) the impact of delivering 6,260 af/y to SCVWD and WWD under the terms and conditions of the then existing contract.

4.2.1 EA ENTITLED "CVP WATER SUPPLY CONTRACT ASSIGNMENT FROM MERCY SPRINGS WATER DISTRICT (CONTRACT NO. 14-06-00-3365A) TO PAJARO VALLEY WATER MANAGEMENT AGENCY" DATED NOVEMBER 6, 1998

The EA entitled "CVP Water Supply Contract Assignment From Mercy Springs Water District (Contract No. 14-06-200-3365A) to Pajaro Valley Water Management Agency," dated November 6, 1998 (1998 EA), analyzed impacts associated with MSWD assigning up to the entire 13,300 af/y to PVWMA. This EA assessed the impact of removing the entire 13,300 af/y from MSWD. The 1998 EA is hereby incorporated herein by reference.

Based on the 1998 EA, Reclamation, on November 6, 1998, made a Finding of No Significant Impact (FONSI), No. 02-99 1106(210), for the assignment of a portion of the CVP Contract held by MSWD to PVWMA (the "1998 FONSI"). The 1998 FONSI is also incorporated herein by reference. The 1998 FONSI found that the "CVP Water Supply Contract Assignment is not a major federal action that would significantly affect the quality of the human environment and, therefore, an Environmental Impact Statement is not required for the proposed action." The 1998 FONSI also found that "[t]he proposed action will not have a significant impact on fish, wildlife and other resources. There [would] be no effect on rare, threatened and endangered species." The 1998 FONSI determined that there would be no impact from providing "PVWMA entitlement to a CVP water supply which: (1) it could put to beneficial uses, (2) it could potentially use at some future date for importation into the Pajaro Valley, (3) it could potentially use as part of an exchange agreement with another water agency, or (4) it could use to generate revenue to support other programs to resolve its water supply problem."

4.2.2 EA ENTITLED "CVP WATER SUPPLY PARTIAL CONTRACT ASSIGNMENT FROM MERCY SPRINGS WATER DISTRICT (CONTRACT NO. 14-06-200-3365A) TO PAJARO VALLEY WATER MANAGEMENT AGENCY, SANTA CLARA VALLEY WATER DISTRICT, AND WESTLANDS WATER DISTRICT," DATED APRIL 18, 1999

In accordance with the terms of the assignment from Mercy Springs to PVWMA, negotiations were initiated among PVWMA, SCVWD, and WWD which resulted in the action analyzed in the EA entitled "CVP Water Supply Partial Contract Assignment from Mercy Springs Water District (Contract No. 14-06-200-3365A) to Pajaro Valley Water Management Agency, Santa Clara Valley Water District, and Westlands Water District (1999 EA)," dated April 12, 1999 (1999 EA). This EA assessed the impact of delivering 6,260 af/y to WWD and SCVWD pursuant to conditions set forth in the "Agreement for Partial Assignment of Water Service Contract". The 1999 EA is hereby incorporated herein by reference.

On April 12, 1999, Reclamation made a FONSI, No. 99-02, for the assignment of the 6,260 af/y to SCVWD and WWD (1999 FONSI). The 1999 FONSI is also hereby incorporated herein by reference. The 1999 FONSI concluded that the joint assignment to SCVWD and WWD would result in no significant impacts to the quality of the human environment. The 1999 FONSI also concluded that "[t]he Proposed Action [would] not affect fish, wildlife or other resources. There [would] be no effect on rare, threatened or endangered species."

4.2.3 ENVIRONMENTAL CHECKLIST IN COMPLIANCE WITH THE CEQA FOR THE WATER TRANSFER OF UP TO 6,260 AF/YR OF CVP WATER FROM MSWD TO WWD AND SCVWD

SCVWD and WWD prepared and made available for public review in February 1999, concurrent with a draft of the 1999 EA, a CEQA document for the transfer of the subject CVP contract water to their respective service areas. The environmental document for the water delivery was prepared in compliance with CEQA, whereby WWD was the lead agency and SCVWD was the responsible agency, for the portion of the contract water proposed for delivery to SCVWD and WWD. Two separate, but concurrent environmental documents which are discussed above were prepared due to the different authorities related to the contract assignment and the water transfer; accordingly, Reclamation's responsibilities dictated that it was the lead agency on the NEPA document, while WWD and SCVWD had the responsibilities for environmental compliance under CEQA for the delivery of the transferred water into their service areas.

The CEQA document concluded that the transfer of the CVP water from MSWD to WWD and to SCVWD would not have a significant effect on the environment and, accordingly, a Negative Declaration was adopted by WWD on April 1, 1999 for the water transfer portion of the project. Such a finding was found to be consistent with the current administrative policies of Reclamation, which routinely approves interim water transfers among CVP water purveyors within the San Luis Canal and Delta Mendota Canal delivery areas. Historically, a portion of MSWD's CVP water had been annually transferred to other CVP contractors in the San Luis Unit. The CEQA document recognized this in addressing delivery of up to 6,260 af/y to SCVWD and WWD under the terms of the proposed assignment to PVWMA, SCVWD, and WWD.

4.3 RELATED ENVIRONMENTAL DOCUMENTS

PVWMA'S BASIN MANAGEMENT PLAN (BMP) EIR, "LOCAL PROJECTS" EIR, AND REVISED BMP EIR

As previously stated, the PVWMA Board of Directors approved a Basin Management Plan (BMP) in 1993 and a Revised BMP in 2002 to manage groundwater supplies and eliminate seawater intrusion into the groundwater basin. The BMP's recommended alternative included managing groundwater pumping to sustainable yield, water conservation, development of local supplies, and the importation of up to 19,900 af/y (long term average) of water. The purpose of importing 19,900af/y is to bring existing and projected basin water demand and supply into balance and alleviate sea water intrusion. The BMP considered CVP contracts yielding an average of 19,900af/y as the imported supply. Impacts of the projects recommended in the BMP Plan on the Pajaro Valley, including use of imported water in that area, were evaluated in a programmatic Environmental Impact Report (PEIR). The impacts of implementing a distribution system and an import pipeline, and adding PVWMA to the consolidated and conformed place of use for the CVP were subsequently evaluated in two project-specific EIRs: the PVWMA Local Water Supply and Distribution System Environmental Impact Report (certified in 1999), and the PVWMA Revised Basin Management Plan Environmental Impact Report (certified in 2002).

By securing the assignment of a portion of MSWD's CVP contract, PVWMA became positioned to eventually take delivery of a portion of the total water supply needed to bring the basin into balance**.**

RECLAMATION'S REVISED BASIN MANAGEMENT PLAN EIS

Transfer and delivery of the 6,260af/y cannot occur until the PVWMA has a pipeline to physically receive the water. Reclamation has prepared a Final Environmental Impact Statement for the PVWMA Basin Management Plan for the approval of the connection of the pipeline to CVP facilities, the use of CVP water within the PVWMA and the funding for the Watsonville Water Treatment Facility. A Record of Decision was finalized in September 2004.

CHAPTER 5 - AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

5.0 INTRODUCTION

This chapter includes a description of the environment encompassed by PVWMA, WWD and SCVWD that could be affected by the proposed renewal of this long-term water service contract for 6,260 af/y of water. It describes the existing regional and sub-regional conditions, the proposed environmental consequences under each of the alternatives and cumulative conditions.

As described in Chapter 5 of this EA, the affected environment in PVWMA, WWD, and SCVWD and the environmental consequences resulting from the assignment were addressed in the 1998 and 1999 EAs. The CVPIA PEIS addressed the potential impacts and benefits of implementing provisions of the CVPIA, including long-term contract renewals. Renewals of the long-term contracts, including the Mercy Springs contract were part of the overall program approved in the PEIS Record of Decision (ROD); therefore, the PEIS is herein incorporated by reference. Accordingly, this Chapter will focus on the affected environment and consequences as a result of the long-term renewal of Contract Number 14-06-200-3365A. In substance, the only changes in circumstances that the Proposed Action may have, beyond that already analyzed in 1998 EA and 1999 EA, relate to water pricing and contract term.

5.1 BACKGROUND

Pajaro Valley Water Management Agency

The PVWMA was formed in 1984, and given the responsibility of managing the groundwater resources within the Pajaro Valley. The PVWMA is authorized by the California Statutes of 1984, Chapter 257 (Act), as amended. Located on the central coast of California, the service area lies mostly in Santa Cruz and Monterey Counties, with a small portion in San Benito County. The geographic boundaries of the Pajaro Valley encompass approximately 79,000 acres of irrigated agricultural lands, native and non-irrigated lands in the hillside areas, the City of Watsonville and the unincorporated communities of Pajaro, Freedom, Corralitos, and Aromas. The Pajaro Valley is home to over 80,000 residents. Agriculture is the most significant economic industry in the valley. High-value crops include strawberries, bush berries, apples, flowers, lettuce, artichokes, and a variety of other vegetables. The Pajaro Valley historically has relied solely upon groundwater to meet agricultural, municipal, and industrial water demands.

Westlands Water District

WWD covers almost 950 square miles of prime farmland located between the California Coast Range Mountains and the trough of the San Joaquin Valley in western Fresno and Kings Counties (Figure 2). WWD averages 15 miles in width and stretches 70 miles in length from Mendota on the north to Kettleman City on the south. Interstate 5 is located near the WWD's western boundary.

The WWD was formed under California Water District law in 1952 upon petition of landowners who urgently needed a surface water supply to supplement poor quality underground supplies that were being rapidly depleted. Negotiations between WWD and Reclamation began to provide a dependable, supplemental supply of surface water through the CVP shortly after WWD's formation. At that time, the federal government was considering the development and construction of the CVP's San Luis Unit. This involved cooperation between the federal and state governments with regard to shared water storage facilities and conveyance systems.

When WWD was originally organized, it included approximately 376,000 acres. In 1963, WWD contracted with the federal government for long-term water service providing for 40 years of water service. In 1965, WWD merged with its western neighbor, Westplains Water Storage District, adding 210,000 acres. Additionally, lands comprising about 18,000 acres were annexed to WWD after the merger to form the current 604,000 acre district. The first deliveries of CVP water from the San Luis Canal to WWD began in 1968. The 1963 water service contract will terminate in 2007.

Of the gross 604,000 acres in WWD, approximately 570,000 acres are classified as irrigable. Water is delivered throughout WWD via 1,034 miles of underground pipelines virtually eliminating seepage and evaporation losses in the distribution system. All water is metered at the point of delivery through more than 3,300 metered field turnouts. WWD contains three water service areas, referred to as priority Area 1, and the Westplains area is referred to as Priority Area II. Priority Area I land has a contract amount of 900,000 af/y (approximately 2.6 af/acre) of CVP water annually, while Priority Area II has a contract amount of 250,000 af/y (approximately 1.3 af/acre) of CVP water annually. Priority Area III is land added to WWD after the merger and has no established water allocation. Priority Area III receives CVP water only if water is available after the needs in Areas I and II are satisfied or if surplus water is available.

Santa Clara Valley Water District

The SCVWD, which has the same boundaries as Santa Clara County, covers about 1,300 square miles from San Francisco Bay south to the Pajaro River. SCVWD includes the Santa Clara Valley and portions of the Diablo Range and Santa Cruz Mountains. Most of the development and water use occurs in the 350 square mile valley floor. SCVWD encompasses 15 cities, including San Jose, Mountain View, Palo Alto, Santa Clara, Sunnyvale, and Gilroy and includes much of the area known as the "Silicon Valley". Natural waterways in SCVWD include the Pajaro River, Guadalupe River, Coyote Creek, Llaga Creek, Uvas Creek, and Los Gatos Creek. A general location map of the SCVWD is shown in Figure 4.

In 1929, the Santa Clara Valley Water Conservation District was created by public vote under provisions of the Water Conservation Act of 1929 (Jones Act) to alleviate land surface subsidence in and around San Jose. The District included about 350 square miles of Santa Clara Valley which overlay the groundwater basin between Coyote and Palo Alto. The plan was to construct dams to capture winter rains that would be used to recharge groundwater aquifers and wells. The Santa Clara County Flood Control and Water Conservation District was created in 1951 by special act of the Legislature and placed under the direction of the County Board of

Supervisors. In 1968, the Santa Clara Valley Water Conservation District merged with the Santa Clara County Flood Control District and became governed by an independent board. The name was changed in 1974 to the Santa Clara Valley Water District. Its purposes were to reduce flood hazards, conserve local water resources, and provide and distribute an adequate water supply for all of Santa Clara County. In 1991, the State Legislature revised the SCVWD's enabling act to recognize its role as the comprehensive water resources management agency for the County and to authorize the District to restore streams, riparian corridors and natural resources while carrying out its water management and flood protection duties. SCVWD provides wholesale water service to 13 retail agencies serving Santa Clara County. SCVWD also provides water directly to the agricultural community and to supplement groundwater.

The concept of the San Felipe Project importing water from the federal Central Valley Project was born in the 1940's. In 1977, the San Felipe Contract with the U.S. Bureau of Reclamation was signed and construction of the San Felipe project began in 1979.

5.2 WATER SUPPLIES AND FACILITIES OPERATIONS

5.2.1 Affected Environment

Pajaro Valley Water Management Agency: As stated in Chapter 2, Purpose and Need, the Pajaro Basin has historically been dependant on groundwater as its primary source of water. Groundwater pumping provides for more than 95 percent of the current demand, or an estimated 69,000 af/y. Approximately 2,100 af/y from local surface water diversions are used (Watsonville diverts approx*imately 1,100 af/y from Corralitos Creek, and agricultural users are projected to divert another 1,000 af/y from local surface waters).*

The Pajaro Valley Basin, groundwater levels have declined as the groundwater pumping rate has exceeded sustainable supply. The PVWMA proposes to maximize the sustainable yield of the groundwater basin (24,000 af/y) to meet current and future water needs while protecting the basin from further seawater intrusion and degradation. Groundwater overdraft and seawater intrusion problems have been documented by the state and federal government since he 1950's (refer to the PVWMA BMP EIR for more information).

As previously described in this EA, the PVWMA has developed a Basin Management Plan to effectively manage the water supply by eliminating groundwater overdraft and preventing further seawater intrusion. The overall water management program includes further development of local supplies, obtaining CVP water supplies and construction of a water transmission and distribution system to provide local and CVP water to agricultural users. The PVWMA pursued the purchase of portion of the of the CVP contract held by the Mercy Springs Water District which is part of the Delta Mendota Canal Unit. Due to the lack of conveyance facilities from San Luis Reservoir into Pajaro Valley, this water cannot be delivered to Pajaro Valley, until further technical and environmental documentation are completed.

Westlands Water District: As stated in the 1999 EA, the primary source of surface water for WWD is the CVP. The annual contract entitlement is 1,150,000af/y. Even at full contract entitlement and utilization of groundwater, the total water supply falls about 100,000af/y short of the total water need. As previously stated, the CVP contract is subject to shortages caused by

drought and environmental and regulatory actions such as the CVPIA, the ESA, and Bay/Delta water quality actions. Thus, WWD and individual landowners, when possible, must obtain supplemental water to help make up this deficiency. WWD has an on-going effort to purchase and transfer water from other sources that would allow a better determination of the water supply sooner in the water year.

Consistent with its goal to obtain supplemental water, in 1999 WWD entered into Contract No 14-06-3365A-IR3-B, which provides, subject to certain conditions, for the delivery of up to 6,260 af/y of CVP contract water from MSWD to PVWMA, SCVWD, and WWD for beneficial use. WWD continues to seek or has obtained since it entered into Contract No 14-06-3365A-IR3-B, additional supplemental supplies.

WWD is located above the alluvial fan deposits between the eastward dipping marine deposits of the Coast Range and the alluvium filled San Joaquin Valley. The groundwater basin underlying WWD is comprised generally of two water-bearing zones: (1) an upper zone above a nearly impervious Corcoran Clay layer containing the Coastal and Sierran aquifers and (2) a lower zone below the Corcoran Clay containing the sub-Corcoran aquifer. These water-bearing zones are recharged by subsurface inflow primarily from the west and northeast, percolation of groundwater, and imported and local surface water. The Corcoran Clay separates the upper and lower water-bearing zones in the majority of WWD. The Corcoran Clay is not continuous in the western portion of WWD.

Groundwater pumping started in this portion of the San Joaquin Valley in the early 1900's. Prior to delivery of CVP water, the annual groundwater pumpage in WWD ranged from 800,000 to 1,000,000 af during the period of 1950-1968. The majority of this pumping was from the aquifer below the Corcoran Clay, causing the sub-Corcoran piezometric ground water surface to reach the lowest record average elevation of more than 150 feet below mean sea level by 1968. The large quantity of groundwater pumped prior to delivery of CVP water caused a significant amount of land subsidence in some areas. Subsidence permanently reduces the aquifer capacity because of the compaction of the water-bearing sediments. WWD has implemented a groundwater management program to reduce the potential for future extreme subsidence.

After implementation of the CVP operations in WWD, groundwater pumping declined to about 200,000 af/y, or less, in the 1970's. The reduction in groundwater pumping stabilized groundwater depths and in most portions of WWD, groundwater levels significantly recovered. During the early 1990's, groundwater pumping increased tremendously because of the reduced CVP water supplies caused by an extended drought, and regulatory actions related to the CVPIA, ESA, and Bay/Delta water quality actions. Groundwater pumping quantities are estimated to have reached 600,000 af /y during 1991 and 1992 when WWD received only 25 percent of its contractual entitlement of CVP water. The increase in pumping caused a decline in groundwater levels, but has since recovered. Normal or near normal CVP water supplies from 1995 – 1999 have reduced the estimated annual quantity of groundwater pumped to approximately 60,000 af/y, resulting in an increase in water surface elevations. However, since 2000, WWD's water supply has been significantly reduced resulting in groundwater pumping to increase to over 200,000af/y.

Safe yield, or current perennial yield, is the maximum quantity of water that can be annually withdrawn from a groundwater basin over a long period of time (during which water supply conditions approximate average conditions without developing an overdraft condition. WWD estimates the current safe yield of groundwater to be approximately 175,000-200,000 af/y. However, this quantity of groundwater is generally only pumped when other supplemental supplies are not available. This is due to the poorer quality of the groundwater compared to surface water.

WWD's permanent distribution system consists of a closed buried pipeline network designed to convey irrigation water to 160 or 320 acre parcels. The distribution system was built between 1965 and 1979. The area served by the completed system serves approximately 88 percent of the irrigable lands in WWD, including all land lying east of the San Luis Canal. Water is distributed through 1,034 miles of buried pipe. Gravity and pumps feed 38 lateral pipelines from east bank of the San Luis Canal, while water is pumped into 27 laterals on the west bank. Six partially complete laterals are served from the Coalinga Canal. Laterals and re-lift stations to serve the remaining 12 percent of the lands are proposed for completion but are yet to be constructed. This remaining land is served by farmer-constructed temporary diversions. The farmers maintain these facilities for WWD. (WWD, 1992)

Water delivered into WWD from the San Luis Canal is generally very good quality, although the water does contain salts.

Santa Clara Valley Water District: As stated in the 1999 EA, the SCVWD is a water supply wholesaler which conserves, imports, treats, distributes, and is responsible for the quality of water. The SCVWD wholesales treated water and groundwater to 13 public and private water retailers that serve Santa Clara County. SCVWD also provides water directly to the agricultural community, and to supplement groundwater.

SCVWD's water supply consists of two primary sources: local supplies and imported water. Local supplies include captured surface runoff, groundwater, and recycled water. Imported supplies are from the State Water Project (SWP), CVP, and Hetch-Hetchy (City of San Francisco).

Most imported water comes to the County from the Sierra Nevada Mountains via the Sacramento/San Joaquin Delta and is delivered by the CVP and State Water Project (SWP). Additionally, potable water is delivered to communities and agencies in northern Santa Clara County from the San Francisco Water Department. Imported water does not need to be treated prior to groundwater recharge (SCVWD, February 1993). SCVWD has the capability of monitoring turbidity of raw water at its Pacheco Pumping Station to determine whether imported water should be sent to the treatment plants or percolation facilities.

The SCVWD has two contracts for water delivery from the CVP. The first CVP contract was executed in 1977 for 152,500af/y. SCVWD's annual contract amount is subject to shortages caused by drought and environmental and regulatory actions such as the CVPIA, the ESA, and Bay/Delta water quality actions. The second contract, executed in 1999, is Contract Number 14-06-3365A-IR3-B, the partial assignment from MSWD.

SCVWD's imported CVP deliveries from the San Felipe Division originate from water stored in the San Luis Reservoir in Merced County and are delivered to the Coyote Creek Pump Station west of Anderson Reservoir via a series of pipelines and tunnels.

SCVWD has a contract with the California Department of Water Resources for 100,000 af/y from the SWP. Water is delivered via the Banks pumping plant in the southern Delta and the South Bay Aqueduct delivers the water to a terminal tank at the Penitencia Water Treatment Plant in east San Jose. SWP water is subject to shortages caused by drought conditions and environmental/regulatory actions in the Bay/Delta.

Several municipalities in Santa Clara County have contracts with the City and County of San Francisco for water from the Hetch-Hetchy project. Imported deliveries originate in the Tuolumne River watershed in the Sierra Nevada Mountains and are transported directly by closed conduit to the Bay-Area. The SCVWD does not control or administer Hetch-Hetchy deliveries to the County; however, this supply reduces the demands on SCVWD supplied water (SCVWD, February 1993)

The three major groundwater basins in the SCVWD service area, which are interconnected and occupy nearly 30 percent of the total county areas, are Santa Clara Valley, Coyote and Llagas Basins. Groundwater supplies nearly half of the total water used in Santa Clara Valley Basin and nearly all of that use is in the Coyote and Llagas basins. In 2000, about 165,000 af of groundwater was used. (SCVWD 2003)

Historically, Santa Clara County has experienced as much 13 feet of subsidence caused by excessive groundwater withdrawal. The district was created partially to protect groundwater resources and minimize land subsidence. Subsidence is costly, as it can lead to flooding that damages properties and infrastructure, and saltwater intrusion that degrades groundwater quality. The rate of subsidence slowed in 1967 when imported water was obtained to replenish groundwater supplies. Today, the SCVWD reduces the demand on groundwater and minimizes subsidence through conjunctive use of surface water and groundwater. The district monitors for land subsidence through benchmark surveying, groundwater elevation monitoring, and data from compaction wells. The SCVWD also monitors groundwater levels to ensure that the amount of groundwater being pumped will not cause further subsidence.

Recharge to the groundwater basins consists of both natural groundwater recharge and artificial recharge through local surface and imported water. SCVWD owns and operates more than 30 recharge facilities and six major recharge systems with nearly 400 acres in recharge ponds. These facilities percolate both local and imported water into the groundwater aquifer. SCVWD does not have its own groundwater extraction facilities, but does levy a charge for all groundwater extractions by local retailers and individual users overlying the Santa Clara Valley Groundwater Subbasin.

SCVWD has many programs in place to manage its groundwater resource. The "Groundwater Management Plan of 2000" contains a detailed description of the district's programs to sustain and protect groundwater resources.

SCVWD owns and operates eleven storage reservoirs with a combined storage capacity of 170,000 af. These reservoirs are located on most of the major streams in the SCVWD service area. These reservoirs retain seasonal runoff that can later be released for groundwater recharge along natural channels and in percolation ponds. Local surface water supplies include the streams flows that feed into and out of the SCVWD's reservoirs, stream flows that are not captured by reservoirs, and water that flows overland into reservoirs.

SCVWD owns and operates 17.3 miles of canals, 8.4 miles of tunnels, 142 miles of pipelines, 3 pumping stations and 3 treatment plans as part of the overall water treatment, distribution and recharge systems. SCVWD also operates twelve water storage reservoirs (11 are owned by SCVWD).

5.2.2 Environmental consequences

5.2.2.1 NO ACTION

Under the No-Action Alternative, it is assumed that Contract No. 14-06-200-3365A would be renewed for a 25 year period in accordance with the implementation of the CVPIA as described in the PEIS Preferred Alternative.

Under the PEIS No-Action Alternative, average annual deliveries under the CVP would be 5,700,000af/y, including deliveries to refuges, water rights holders, and Sacramento River Settlement Contractors, Exchange Contractors, and CVP Water Service contractors. Total CVP water deliveries would decrease under most alternatives, including the Preferred Alternative, by about 10 percent as a result of the allocation of CVP water to Level 2 refuge water supplies, improved fish and wildlife habitat, and reduced Trinity River exports to the Central Valley. Average annual CVP water deliveries to Water Service Contractors south of the Delta would decrease from 2,270,000 af/y under the No-Action Alternative to 1,933,000 af/y under all of the PEIS alternatives, including the Preferred Alternative, as a result of the reallocation of CVP water supplies.

As stated in the 1999 EA, the assignment of the MSWD water and renewal of Contract Number 14-06-200-3365A does not affect the quantity or timing of diversions from the Delta because deliveries continue to be on an agricultural demand schedule from annual allocations of CVP water that are made available by Reclamation based upon water supply conditions. The Contract renewal also does not affect CVP facilities, operations or conditions and does not alter CVP entitlement or impede any obligations to deliver water to other CVP Contractors or to fish and wildlife refuges.

Pajaro Valley Water Management Agency: The Bureau of Reclamation prepared the Revised BMP EIS to analyze the impacts of connecting PVWMA's import water facilities to the San Felipe Project and use of CVP water in PVWMA, including the 6,260 af/y available under long-term contract No. 14-06-200-3364A. Tiered pricing under the No-Action will have no effect on water use by the PVWMA because to date PVWMA has not taken any CVP water under any terms.

Westlands Water District: Pursuant to the Related Agreement, under the No-Action WWD may receive up to 6,260 af/y in most of the first 10 years of the Related Agreement and up to 6,260 af/y in most of years 11-20 of the assignment, unless PVWMA decides to assume WWD's portion of this water supply, and up to 6,260 af/y after year 20 if PVWMA does not exercise its option to assume the full contract water supply. As stated in the 1999 EA, the water supply available under this contract allows the WWD to contract for an additional 6,260 af/y of CVP water during full water supply years during at least the first 10 years of the contract assignment. After factoring in reliability of CVP water (estimated 70%), it is anticipated that WWD would receive on average 3,382 af/y during the first 10 years. This represents less than 0.4% of WWD's deliveries from existing CVP contract supplies. This CVP water would be used to "offset" the annual water supply shortages previously described in this EA and would help reduce the quantity of water to be purchased for transfer into WWD from other sources and/or reduce the quantity of groundwater extracted within WWD. Thus, it was previously concluded that this water supply has a minor, but positive effect on groundwater levels since this CVP water could be used to offset groundwater pumping**.** It is believed that tiered pricing under the No-Action will have no significant impacts on water use under Contract No 14-0-200-3365A because it would be more economical compared to transfers, or cost associated with groundwater pumping.

This water would be conveyed to WWD via existing facilities, no WWD facilities would require expansion or improvement to accommodate this water. Thus there would be no construction of new facilities, or expansion or modification of existing facilities to accommodate this water.

Santa Clara Valley Water District*:* As stated in the 1999 EA, per the Related Agreement, SCVWD may receive up to 6,260af/y, or a maximum of 25% of the total water supply available. It is expected that SCVWD would typically take delivery of this water during dry periods. SCVWD could receive up to 25% of the water available for delivery from this contract over a 20 year period.

As stated in the 1999 EA, the water supply available to SCVWD pursuant to the Related Agreement is not intended to be part of the SCVWD's long-term water supplies. The annual option is viewed as a cost-effective tool to provide "insurance" to help replace shortages previously discussed in this EA, and to help cover water supply risks associated with slower than expected implementation of some IWRP components, or to help cover the risk that some assumptions made in the IWRP may not be secure. This contract supply would help reduce the quantity of water to be purchased for transfer into SCVWD from other sources and/or reduce the quantity of groundwater extracted within SCVWD. This quantity of water represents about 1% of SCVWD's existing supplies during critically dry periods. The outcome of the availability of this additional CVP supply was determined to likely protect the groundwater resources by supplying an alternative source of water during dry years. It is also believed that tiered pricing under the No-Action will have no significant impacts on water use under Contract No 14-06-200-3365A by SCVWD because even at the highest tier it would be more economical compared to transfers, or cost associated with groundwater.

Contract supplies will be stored and/or conveyed through SCVWD utilizing existing facilities. No SCVWD facilities will need to be expanded or improved, and or modification of the SCVWD operations is not necessary to accommodate this water. Thus there would be no construction of new facilities, or expansion or modification of existing facilities, to accommodate this water. The quality of this CVP water is high enough that if it is added to creeks or percolation ponds; it would not violate any water quality standards in Santa Clara County.

5.2.2.2 Alternatives 1 and 2

The contract terms of water quantities, timing, point of diversion, purpose of use, and responsibility for water distribution are the same as compared to the No-Action Alternative. The action of renewing Contract No. 14-06-200-3365A under Alternative 1 does not differ substantially from the No-Action Alternative with respect to rates and methods of payment, definition of M&I Water, and water measurement. Because there are no substantial differences between Alternative 1, 2 and the No-Action Alternative, there would be no surface water supply impacts to the CVP, PVWMA, WWD, or SCVWD from implementation of Alternatives 1 and 2.

5.2.2.3 Cumulative Effects

Cumulative effects on a CVP-wide basis were adequately addressed in the CVPIA PEIS upon which this EA is tiered. Since the differences among the alternatives are essentially contractual features, cumulative impacts associated with implementation of the CVPIA would be the same under all alternatives. Beyond those cumulative impacts, there are no additional impacts attributed to Alternative 1 or 2 that would contribute to cumulative water supply impacts.

Since the completion of the CVPIA PEIS a myriad of water transfers and exchanges have occurred or are proposed. These transfers and exchanges are temporary actions, occurring within one year. In recent years, requests for contract assignments have increased resulting in permanent redirecting of water to other districts. Each of these water service actions requires separate environmental review and approvals. These water service actions allow for improved management of existing water supplies and do not result in additional water diverted from historical conditions. The use and delivery of CVP water in PVWMA under the MSWD contract assignment has been analyzed in the EIS for the Pajaro Valley Water Management Agency Revised Basin Management Plan Project. The renewal of Contract No. 14-06-200-3365A does not result in approvals for specific water supplies to PVWMA. Therefore, there are no significant contributions to cumulative effects to water resources in PVWMA under any alternative.

Implementing the long-term renewal of Contract Number 14-06-200-3365A under each of the alternatives would continue the provision of CVP water for PVWMA as a potential surface water supply to reduce groundwater overdraft and to WWD and SCVWD as a supplemental source to help minimize the effect of continued CVP water reductions. The water available under this contract in cumulation with other sources of water would be within historical levels, resulting in no change to existing conditions for water use within SCVWD or WWD.

5.3 LAND USE

5.3.1 AFFECTED ENVIRONMENT

Pajaro Valley Water Management Agency: Open space and agriculture are the predominant land uses in the Pajaro Valley. Crops grown in the valley include strawberries, bush berries, apples, flowers, lettuce, artichokes and other vegetables. While farmhouses are scattered throughout the Pajaro Valley, residential areas within the project area are primarily located near urban centers, such as the City of Watsonville and the neighboring community of Freedom, inland foothill areas, and along the coast.

Westlands Water District: Agricultural production is the predominant land use in WWD. WWD's farmers work some of the most fertile and productive land in the world producing vital food and fiber products and economic wealth from renewable natural resources. More than 60 different crops are grown commercially in WWD with the potential for scores of others. Unlike many other key growing areas of California, urbanization is not a direct threat to productivity. The primary crops grown include cotton, tomatoes, garlic, almonds, melons, lettuce, grains, and safflower. The cropping patterns have changed over the years depending upon water availability, water quality, and the agricultural economy and market factors. Prior to the delivery of CVP water, farmers in WWD primarily grew cotton and grain along with some vegetables. The acreage trend, however, is that vegetable and permanent crops have become a larger part of the crop acreage and cotton and grain acreage has decreased. Since 1977, approximately 8.8 percent of the land in WWD, on average, is idled each year. In 1992 and 1993, water users were forced to fallow 125,082 and 112,718 acres of land, or 22% and 20% respectively, of the total irrigable acres, as a result of severe water supply shortages due to the drought. Since 2000, water supply reductions have resulted in increased land fallowing in WWD and in 2002, approximately 100,000 acres were fallowed.

Santa Clara Valley Water District: Santa Clara County is the largest county in the San Francisco Bay Area, covering 1,312 square miles. The county is populated by almost 1.6 million residents within 15 cities and unincorporated areas. While a significant portion of the County's land area is unincorporated ranch and forest land, 92 percent of the population lives in urbanized areas within the County.

Northern Santa Clara County is extensively urbanized, and includes thirteen of the county's fifteen cities and virtually all of the county's residential, commercial and industrial development. The south Valley remains predominantly rural with the exception of the cities of Gilroy and Morgan Hill and the small unincorporated community of San Martin. Low-density residential developments are also scattered through the valleys and bordering foothill. Most of the lands within the unincorporated area of the County consist of ranch and forest land in the Santa Cruz and Diablo Mountain Ranges with scattered low-density residential development. The Diablo Range constitutes about half of the County's total land area. Agricultural uses are found mostly in the southern portions of the County while only small pockets of agricultural land remain in the northern portion of the County. Typical crops grown in Santa Clara County include various vegetables, fruits, nuts, berries, flowers, timber, and Christmas and other ornamental trees (Source: Santa Clara County Crop Report)

5.3.2 ENVIRONMENTAL CONSEQUENCES

5.3.2.1 NO ACTION

As described in Chapter 2, the No-Action Alternative provides a point of comparison for action alternatives and represents future conditions at a projected level of development without the implementation of any action alternative. Under the No-Action Alternative, Contract Number 14-06-200-3365A would be renewed as described in Chapter 2 and PVWMA, WWD and SCVWD would receive water under the Contract pursuant to the Related Agreement.

The No-Action Alternative would not directly impact land uses within PVWMA, WWD, or SCVWD. The renewal of Long-term Contract Number 14-06-200-3365A would not involve development of any physical facilities or structures that would alter current land uses and would not result in the installation of structures that would conflict with existing land-use plans, and would not change quantities or uses of water.

As stated in Chapter 1, the development of new facilities is required prior to the PVWMA being able to take delivery of CVP Water. However, the development of these facilities is not part of the Renewal of Long-term Contract Number 14-06-200-3365A, but is part of the PVWMA Revised Basin Management Plan and the effects of this action are being addressed in the Revised BMP EIS.

Pajaro Valley Water Management Agency: Although PVWMA does not currently receive any CVP water, it could in the future receive CVP water pursuant to the Related Agreement. As stated in the BMP EIS, without a supplemental source of water, it is assumed that basin-wide groundwater pumping restrictions would be imposed in order to bring the groundwater basin into balance and to curtail seawater intrusion. This action would restrict agricultural water supplies to 12,200 af/y, and 80 percent reduction from current levels. It is expected that approximately 25,660 acres of existing farmland could no longer be used for irrigated agricultural since no groundwater would be available. The fallowing of 25,660 acres of land would cause property values to decline precipitously, creating pressure for conversion of the land to other uses (such as urbanization). The amount of urbanization that could occur under the No Action Alternative is speculative. Receipt of up to 6,260 af/y pursuant to the Related Agreement would replace some groundwater overdraft with surface water supply, thus preserving irrigated agriculture.

Westlands Water District: As stated in the 1999 EA, the 6,260 af/y of CVP water, if made available to WWD would not promote additional land to be farmed. Any water that is delivered to WWD as a result of this contract would be used to help offset the annual water supply shortage faced by WWD and hence, reduce the annual amount of groundwater pumped or reduce annual transfers from other sources.

Santa Clara Valley Water District: As stated in the 1999 EA, 6,260af/y pursuant to the terms and conditions of the Related Agreement would have no affect on land use in SCVWD. As previously stated in this EA, SCVWD is expected to take this water only in dry years. Considering the amount of water available and its temporary nature, the long-term renewal of Contract Number 14-06-200-3365A will not affect future land development, particularly regarding population growth in the incorporated cities within the County. The assignment was

executed as one of the multiple tools adopted by SCVWD it its 1999 IWRP, and the water obtained pursuant to a renewal of this contract would assist in meeting water demands of existing and projected land uses, but would not influence those trends. Although this water supply would be expected to provide a slightly more reliable source of water during dry periods, it is not expected to result in any changes to the presence of existing agricultural lands or their conversion to non-agricultural use due to the small amount relative to overall supplies and periodicity of availability.

5.3.2.2 ALTERNATIVES 1 and 2

Similar to the discussion above for the No-Action Alternative, Alternatives 1 and 2 would not directly result in any adverse impacts to land use. The long-term renewal of Contract Number 14-06-200-3365A would only continue to provide water supplies that accommodate a portion of the existing and already planned populations and land uses identified in the applicable county general planning documents. Implementation of these alternatives would not directly adversely impact the continued production of agricultural crops or impair the productivity of important farmland within the PVWMA or WWD. This contract supply would be used to offset groundwater pumping on existing agricultural lands in the Pajaro Valley. Likewise, this contract could also be used to offset reduced supplies to existing agricultural lands within WWD. Therefore, there would be no effect on native habitats. Similarly, implementation of these Alternatives would not directly affect agricultural production or development within Santa Clara County.

5.3.2.3 CUMULATIVE IMPACTS

Cumulative effects on a CVP-wide basis were adequately addressed in the CVPIA PEIS upon which this EA is tiered. Since the differences among the alternatives are essentially contractual features, cumulative impacts associated with implementation of the CVPIA would be the same under all alternatives. There are no additional impacts attributed to Alternative 1 or 2 that would contribute to cumulative land use impacts.

5.4 BIOLOGICAL RESOURCES

5.4.1 AFFECTED ENVIRONMENT

Pajaro Valley Water Management Agency*:*
Special status species potentially occurring within the boundaries of the PVWMA are summarized in Tables 5-1 and 5-2 below. The tables provide a comprehensive list of all threatened or endangered species listed by the state and federal governments potentially occurring in the PVWMA service area.

The great majority of the service area is in agriculture, and very little natural vegetation remains. Fair to excellent quality habitat is present for the following species: California red-legged frog (*Rana aurora draytonii*), Santa Cruz long-toed salamander (*Ambystoma macrodactylon croceum*), California tiger salamander (*Ambystoma californiense*), and the western pond turtle (*Clemmys marmorata*). Potential habitat for the San Joaquin kit fox (*Vulpes macrotis mutica*) is

present in the eastern portions of the service area. Potential habitat for the least Bell's vireo (*Vireo bellii pusillus*) exists along some portions of the Pajaro River riparian corridor and tributaries.

The Pajaro River supports a population of the federally threatened south-central California steelhead (*Oncorhynchus mykiss*) Evolutionarily Significant Unit (ESU). Steelhead are known to migrate up the Pajaro River and its major tributaries, including Salsipuedes Creek and Corralitos Creek. The tidewater goby (*Eucyclogobius newberryi*), a federally endangered species, is found in the Pajaro Lagoon.

The project area provides suitable nesting habitat for tricolored blackbird, a federal species of concern. This species has been observed in Hanson Slough and other emergent wetlands in the Pajaro Valley.

TABLE 5-1
SPECIAL-STATUS PLANT SPECIES KNOWN FROM THE REGION OF THE PVWMA REVISED BASIN MANAGEMENT PLAN PROJECTS

***Scientific* and Common Name**[a]	**Listing Status USFWS/ CDFG/CNPS**[b]	**Habitat**	**County Distribution**[c]	**Flowering Period**	**Suitable Habitat Present in Study Area**
Arctostaphylos andersonii Santa Cruz manzanita	FSC/--/1B	Openings, edges, hardwood and conifer forests, chaparral	SCL, SCR, SMT	Nov-Apr	No
Arctostaphylos hookeri ssp. *hookeri* Hooker's manzanita	--/--/1B	Sandy soils, coastal scrub, chaparral, closed-cone conifer forests	MNT, SCR	Feb-Apr	No
Arctostaphylos pajaroensis Pajaro manzanita	FSC/--/1B	Sandy soils in chaparral	MNT, SCR*	Dec-Mar	No
Atriplex joaquiniana San Joaquin saltbush	FSC/--/1B	Chenopod scrub, alkali meadow, valley and foothill grassland	SBC	Apr-Oct	Unlikely
Holocarpha macradenia Santa Cruz tarplant	FT/CE/1B	Coastal prairie, valley and foothill grassland, in clay soils with coastal influence	ALA*, CCA, MNT, MRN*, SCR	Jun-Oct	Large population exists at Watsonville Airport; not found in project area
Chorizanthe pungens var. *pungens* Monterey spineflower	FT/--/1B	Coastal dunes and coastal scrub	MNT, SCR	Apr-Jun	Unlikely
Chorizanthe robusta var. *robusta* Robust spineflower	FE/--/1B	Coastal dunes, coastal scrub, openings in hardwood forest	ALA*, MNT, SCL*, SCR, SMT*	May-Sep	Unlikely
Erisimum ammophilum Coast wallflower	FSC/--/1B	Sandy openings in maritime chaparral, coast dunes, coastal scrub	SCR, MNT	Feb-June	No
Gilia tenuiflora ssp. *arenaria* Sand gilia	FE/CT/1B	Coastal dunes, coastal scrub, in sand	MNT	Apr-May	No
Centromadia parryi ssp. *congdonii* Congdon's tarplant	FSC/--/1B	Alkaline places in valley foothill grasslands	ALA*, CCA*, MNT, SCL(*?), SCR*, SLO, SOL*	Jun-Nov	Unlikely; suitable habitat eliminated
Horkelia cuneata ssp *sericea* Kellog's horkelia	FSC/--/1B	Coastal scrub and closed cone pine forests	SCR, MNT	April-Sept	Unlikely; suitable habitat largely eliminated

TABLE 5-1 (Continued)
SPECIAL-STATUS PLANT SPECIES KNOWN FROM THE REGION OF THE PVWMA REVISED BASIN MANAGEMENT PLAN PROJECTS

***Scientific* and Common Name**[a]	**Listing Status USFWS/ CDFG/CNPS**[b]	**Habitat**	**County Distribution**[c]	**Flowering Period**	**Suitable Habitat Present in Study Area**
Pedicularis dudleyi Dudley's lousewort	FSC/--/1B	Deep, shady woods of redwood forest, although often in openings such as old skid trails; maritime chaparral and grasslands in coastal region.	MNT, SLO, SMT	Apr-Jun	No
Penstemon rattanii var *kleei* Santa Cruz Mountains beardtongue	--/--/1B	Chaparral and lower montane conifer forest, sometimes in transition zone, sandy shale slopes	SCR, SCL	Apr-Sept	No
Plagiobothrys glaber Hairless popcorn flower	--/--/1A	Meadows, seeps, marshes, swamps	SBC	Mar-May	No. Presumed extinct in California.
Streptanthus albidus ssp *peramoenus* Most beautiful jewel-flower	FSC/--/1B	Chaparral, valley and foothill grassland, cismontane woodland; serpentine outcrops	SCL	Apr-Jun	Unlikely; suitable habitat largely eliminated

NOTES:

[a] Abbreviations are as follows: ssp. = subspecies; var. = variety.

[b] Listing status codes are as follows:

USFWS=U.S. Fish and Wildlife Service
FE=Listed as Endangered by the Federal Government
FT=Listed as Threatened by the Federal Government
FPE=Proposed for Listing as Endangered
FC=Candidate for Federal listing
FSS=Former Category 2 Candidate for Federal listing
FSC=Federal Species of Concern

CDFG=California Department of Fish and Game
CE=Listed as Endangered by the State of California
CT=Listed as Threatened by the State of California
SC=California species of concern

CNPS=California Native Plant Society
List 1A=Plants presumed extinct in California
List 1B=Plants rare, threatened, or endangered in California and elsewhere
List 2= Plants rare, threatened, or endangered in California but more common elsewhere
List 3= Plants about which more information is needed
List 4= Plants of limited distribution

[c] County Distribution: County codes follow California Department of Transportation three-letter abbreviations, as follows: ALA = Alameda; CCA = Contra Costa; MNT = Monterey; MRN = Marin; SCL = Santa Clara; SCR = Santa Cruz; SLO = San Luis Obispo; SMT = San Mateo; SOL = Solano; SBC = San Benito.

Asterisk after county code indicates species is presumed extirpated in that county.

SOURCE: Environmental Science Associates, 1997, 2002

TABLE 5-2
NAME, STATUS, HABITAT, KNOWN LOCALITIES AND LIKELIHOOD OF OCCURRENCE IN THE PROJECT AREA FOR SENSITIVE ANIMAL SPECIES

Scientific Name	Common Name	Listing Status FWS/DFG/[1]	Habitat	Localities Reported by CNDDB in the Region of the Project[2]	Likelihood of Occurrence in Project Area
			FEDERAL OR STATE THREATENED OR ENDANGERED SPECIES		
Ambystoma macrodactylum croceum	Santa Cruz long-toed salamander	FE/CE	Wet meadows near sea level in a few restricted locales in Santa Cruz and Monterey counties. Aquatic larvae prefer shallow (<12 inches) freshwater, using clumps of vegetation or debris for cover. Adults use mammal burrows.	Ellicott Pond and vicinity, 4 mi W of Watsonville; Bennett Slough/Struve Slough, 1.5 mi NNE of Moss Landing; McClusky Slough, 2 mi N of Moss Landing; 1.25 mil N of Moss Landing, Seascape Pond, Calabasas Pond, Merk Road, 0.6 miles E of White Road/Freedom Blvd., Moro Cojo Slough.	**Moderately High** due to appropriate habitat in various sloughs and location of reported individuals
Rana aurora draytonii	California red-legged frog	FT/CSC	Mostly in lowlands and foothills in/near permanent sources of deep fresh water, but will disperse far during and after rain. Prefers shorelines with extensive vegetation. Requires 11-20 weeks of permanent water for larval development.	Just E of Zmudowski Beach State Park, 2 mi NNW of Moss Landing; Pacheco Creek, at the Hwy. 156 crossing, 0.75 mi N of Fairview Road, East branch of Hanson Slough, 2 mi W of Watsonville, McClusky Slough, Warner Lake, Ellicott Pond, crossing of San Miguel and San Juan Road, Bennett Slough, Struve Pond, Gallighan Slough, Tequisquita Slough, Tick Creek, Pajaro River.	**High** due to the proximity of reported occurrences and habitat within the project area

TABLE 5-2 (Continued)
NAME, STATUS, HABITAT, KNOWN LOCALITIES AND LIKELIHOOD OF OCCURRENCE IN THE PROJECT AREA FOR SENSITIVE ANIMAL SPECIES

Scientific Name	Common Name	Listing Status FWS/DFG/[1]	Habitat	Localities Reported by CNDDB in the Region of the Project[2]	Likelihood of Occurrence in Project Area
			FEDERAL OR STATE THREATENED OR ENDANGERED SPECIES		
Eucyclogobius newberryi	Tidewater goby	FE[3]/CSC	Occurs in shallow waters of bays and estuaries.	Pajaro Lagoon	**Present**; near and downstream from Highway 1 only
Oncorhynchus mykiss	South-Central California steelhead	FT/CSC	Rivers and creeks with permanent water for spawning and rearing; other habitats may serve as migration routes.	Pajaro River, Salsipuedes, Corralitos and Pescadero creeks	**Present** in Pajaro River along the length of the project; also in Pescadero Creek.
Vireo bellii pusillus	Least Bell's vireo	FE/CE	Low riparian, either near water or in dry river bottoms	Llagas Creek between Hwy 152 and its confluence with the Pajaro River east of Gilroy	**Low**; species mostly found in S. Calif., but could be found in riparian habitats near the eastern portion of the project area.
Charadrius alexandrinus nivosus	Western snowy plover (nesting)	FT/--	Sandy beaches on marine and estuarine shores; salt pond levees and shores of alkali lakes also provide habitat; require sandy, gravelly, or friable soil for nesting.	Mouth of Pajaro River; Palm Beach, N of Pajaro River; Zmudowski State Beach, S of Pajaro River, Moss Landing State Beach, etc.	**Low** due to lack of suitable habitat within the project area.
Rallus longirostris obsoletus	California clapper rail	FE/CE	Salt water marshes traversed by tidal sloughs, associated with abundant growths of pickleweed, but feeds in open areas on molluscs obtained from mud-bottomed sloughs.	Elkhorn Slough	**Low** due to lack of habitat within the project area.
Vulpes macrotis mutica	San Joaquin kit fox	FE/CT	Annual, open grasslands, sometimes with shrubby vegetation	Area surrounding Hollister north to Gilroy; south past Pacines	**Moderate** due to presence of grassland areas on the eastern end of the project area.

TABLE 5-2 (Continued)
NAME, STATUS, HABITAT, KNOWN LOCALITIES AND LIKELIHOOD OF OCCURRENCE IN THE PROJECT AREA FOR SENSITIVE ANIMAL SPECIES

Scientific Name	Common Name	Listing Status FWS/DFG/[1]	Habitat	Localities Reported by CNDDB in the Region of the Project[2]	Likelihood of Occurrence in Project Area
			FEDERAL OR STATE THREATENED OR ENDANGERED SPECIES		
Branchinecta conservatio	Conservancy fairy shrimp	FE/--	Vernal pools or other areas capable of ponding water seasonally	Not reported by CNDDB	**Low** due to quality of vernal pool habitat in project area.
Branchinecta longiantenna	Longhorn fairy shrimp	FE/--	Vernal pools or other areas capable of ponding water seasonally	Not reported by CNDDB	**Low** due to quality of vernal pool habitat in project area.
Branchinecta lynchi	Vernal pool fairy shrimp	FT/--	Vernal pools or other areas capable of ponding water seasonally	Not reported by CNDDB	**Low** due to quality of vernal pool habitat in project area.
			FEDERAL OR STATE CANDIDATE SPECIES, SPECIES OF CONCERN, OR OTHER PROTECTED SPECIES		
Coelus globosus	Globose dune beetle	FSC/--	Inhabitant of undisturbed coastal sand dune habitat, from Bodega Head in Sonoma County south to Ensenada, Mexico. Inhabits foredunes and sand hummocks, burrowing beneath the sand surface and is most common beneath dune vegetation.	Palm Beach access, at the end of Beach Road, Sunset State Beach, 1 mile N of the mouth of the Pajaro River; Potrero Road access point to Salinas River State Beach; Manresa State Beach, E of Watsonville.	**Low** due to lack of suitable habitat within the project area.
Tryonia imitator	Mimic (California brackishwater) tryonia	FSC/--	Coastal lagoons and salt marshes from Sonoma County to Ensenada, Mexico. Inhabit variety of subtidal sediment types and are capable of withstanding wide range of salinities.	Bennett Slough, 0.1 mi NW of tide gate at Jetty Road; Parson's Slough, SE edge of Elkhorn Slough; Moro Cojo Slough at Hwy 1 crossing.	**Low;** known to occur near project area and potentially in brackish parts of Watsonville Slough and the Pajaro River estuary.

TABLE 5-2 (Continued)
NAME, STATUS, HABITAT, KNOWN LOCALITIES AND LIKELIHOOD OF OCCURRENCE IN THE PROJECT AREA FOR SENSITIVE ANIMAL SPECIES

Scientific Name	Common Name	Listing Status FWS/DFG/[1]	Habitat	Localities Reported by CNDDB in the Region of the Project[2]	Likelihood of Occurrence in Project Area
	FEDERAL OR STATE CANDIDATE SPECIES, SPECIES OF CONCERN, OR OTHER PROTECTED SPECIES				
Ambystoma californiense	California tiger salamander	FC/CSC	Annual grasslands and grassy understory of valley-foothill hardwood habitats in central and Northern California. Needs underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding.	Ellicott Pond and vicinity, 4 mi W of Watsonville; 1.25 mi N Moss Landing, adjacent to Elkhorn Slough; just W of Route 156, 0.25 S of the Barnheisel Road jct., 4.5 mi NNE of Hollister Municipal Airport, just E of the intersection of Bloomfield Road and HWY 152, numerous sightings NE of Pacheco Pass Road, Carlyle Hills W of Highway 101.	**Moderate** due to known occurrences near project area.
Anniella pulchra nigra	Black legless lizard	--/CSC	Sand dunes and sandy soils in the Monterey Bay and Morro Bay regions. Inhabits sandy soil/dune areas with bush lupine and mock heather as dominant plants.	Reported on the Watsonville West quad; location information suppressed	**Low** due to lack of suitable habitat within the study area.
Clemmys marmorata	Western pond turtle	FSC/CSC	Thoroughly aquatic turtle of freshwater ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Need basking sites and sandy banks or grassy open fields for egg-laying.	Pinto Lake County Park (N portion of Pinto Lake), Watsonville Slough at Pajaro Dunes, Pajaro R. downstream from McGowan Rd. bridge; Watsonville (vicinity Brewington Ave. and Crestview Dr.), Tequisquita Slough, Anzar Lake	**High** within freshwater emergent sloughs and the Pajaro River.

TABLE 5-2 (Continued)
NAME, STATUS, HABITAT, KNOWN LOCALITIES AND LIKELIHOOD OF OCCURRENCE IN THE PROJECT AREA FOR SENSITIVE ANIMAL SPECIES

Scientific Name	Common Name	Listing Status FWS/DFG/[1]	Habitat	Localities Reported by CNDDB in the Region of the Project[2]	Likelihood of Occurrence in Project Area
	FEDERAL OR STATE CANDIDATE SPECIES, SPECIES OF CONCERN, OR OTHER PROTECTED SPECIES				
Agelaius tricolor	Tricolored blackbird (nesting colony)	FSC/CSC	Nest in tule, sedges, or willows. Thistles, large enough to provide cover from predators, have also been used in upland areas. A site large enough for a minimum number of 50 pairs is required.	Sargent Creek, 1.5 mi N and 1.5 mi N of confluence of San Benito River and Pajaro River; Sargent Creek, west bank of Struve Slough, just west of Hwy. 1, one mi south of Hwy. 152 junction; Hanson Slough, 1.1 mi NW of Hwy. 1 Jct. with Hwy. 129 west of Watsonville	**Moderate;** suitable habitat present in Hanson Slough, McClusky Slough and irrigation pond adjacent to Salinas Road.
Riparia riparia	Bank swallow	--/CT	Colonial nester; nests primarily in riparian and other lowland habitats. Requires vertical banks or cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Mouth of Pajaro River, near Bluff and Trafton Roads; Moss Landing; Betabel Rd., Santa Clara County.	**Low** due to lack of suitable habitat within the project area.
Athene cunicularia	Burrowing owl	--/CSC 3503.5 (burrow sites)	Low vegetation in grasslands, scrublands, and deserts. Nests in small mammal burrows, esp. those of California ground squirrel.	Dolan Road, approx. 2 mi. n. of Castroville.	**Moderate;** habitat in study area is limited, but could be found in grasslands areas, especially in the eastern part of the study area
Dendroica petechia brewsteri	Yellow warbler	--/CSC	Nests in riparian woodlands and forests, consisting of cottonwoods, willows, and/or alders, as well as in montane chaparral habitats with substantial amounts of brush or understory.	Not reported by CNDDB	**Present;** observed on Pajaro River near Betabel Rd. and near Murphy Crossing.

TABLE 5-2 (Continued)
NAME, STATUS, HABITAT, KNOWN LOCALITIES AND LIKELIHOOD OF OCCURRENCE IN THE PROJECT AREA FOR SENSITIVE ANIMAL SPECIES

Scientific Name	Common Name	Listing Status FWS/DFG/[1]	Habitat	Localities Reported by CNDDB in the Region of the Project[2]	Likelihood of Occurrence in Project Area
	FEDERAL OR STATE CANDIDATE SPECIES, SPECIES OF CONCERN, OR OTHER PROTECTED SPECIES				
Ictera virens	Yellow-breasted chat	--/CSC	Nests in riparian woodlands and forests, consisting of cottonwoods, willows, and/or alders, as well as in montane chaparral habitats with substantial amounts of brush or understory.	Not reported by CNDDB	**Moderate;** requires dense riparian habitat; habitat in project area is generally narrow or sparse. Potential habitat present on Pajaro River east of Murphy Crossing and west of Highway 1.

1 **STATUS CODES:**

USFWS: (U.S. Fish and Wildlife Service)
FE=Listed as Endangered by the Federal Government
FT=Listed as Threatened by the Federal Government
FPE=Proposed for Listing as Endangered
FC=Candidate for Federal listing
FSC=Former Category 2 Candidate for Federal listing

CDFG: (California Department of Fish and Game)
CE=Listed as Endangered by the State of California
CT=Listed as Threatened by the State of California
CSC=California species of concern
3503.5= Protected under Fish and Game Code 3503.5

2 CNDDB: California Natural Diversity Database.

3 Currently proposed for delisting north of Orange County (Federal Register, 2001).

SOURCE: Environmental Science Associates, 1997, 2002

Westlands Water District: The environmental setting likely to be impacted from a renewal of this contract is restricted to the irrigable area within the WWD boundary, therefore, surrounding areas and the foothills and adjacent mountain areas are not included in this analysis.

The biological resources in WWD are similar to biological resources found in other agricultural areas of the San Joaquin Valley. The habitat is dominated by agricultural habitat. The cultivated areas include field crops, orchards, and pasture. The vegetation includes crops and frequently includes weedy non-native annual and biennial plants. Common purslane (*Portulaca oleeracea*), London rocket (*Sysimbrium irio*), field bindweed (*Convolvulus arvensis*), and barnyard grass (*Echinochloa crusgall*) occur in irrigated fields. Turkey mullein (*Eremocarus setigerus*), puncture vine (*Tribulus terrestris*), telegraph weed (*Heterotheca grandiflora*), and Canada horseweed (*Conyza canadensis*) may occur along roads and in fallowed fields. Ripgut grass (*Bromus diandrus*), wild oats (*Avena fatua*), and common fiddelneck (*Amsinckia inermidea*) are among the species that may occur in orchard lands. Kentucky fescue (Festuca arundinacea), dallisgrass (*Paspalum dilatatum*), perennial ryegrass (*Lolium perenne*), Bermuda grass (*Cynodon dactylon*), white clover (*Trifolium repens*), bull thistle (*Cirsium vulgare*), spiny clotbur (*Xanthium spinosum*), cocklebur (*Xanthium strumarium*), and pacific rush (*juncos effuses*) may occur in pasture lands.

These types of vegetation support various species of birds that may occur in the cultivated areas, such as Brewer's blackbird (*Euphagus cyanocephalus*), Red-wing blackbird (*Agelaius phoeniceus*), Tricolored blackbird (*Agelaiustricolor*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), yellow-billed magpies (*Pica nuttalli*), white-crowned sparrow (*Zonorichia leucophyrs*), American robin (*Turdus migratorius*), Western kingbird (*Tyrannus verticalis*), and American pipit (*Anthus spinoletta*). The animals that may occur include house mouse (*Mus musculus*), deer mouse (*Peromscus maniculatus*), blunt-nosed leopard lizard, San Joaquin antelope squirrel, San Joaquin kit fox, Giant garter snake (*Thamnophis gigas*), Giant kangaroo rat, Fresno kangaroo rat, Tipton kangaroo rat (D*ipodomys nitratoides brevinausus*), king snake (*Lampopeliis getulus*), western fence lizard (*Sceloporus occidetalis*), redtail hawk (*Buteo jamaicensis*), Swainson's hawk (*Buteo swainsoni*), and coyote (*Canis latrans*). Near rivers and canals with water and some vegetation, Great blue heron (*Ardea herodias*), Great egret (*Casmerd\odias albus*), and White-faced ibis (*Plegadis chihi*) may occur.

Alkali desert scrub occurs in some areas with alkaline soils and seasonally perched water over a shallow claypan. The vegetation in these areas may include iodine brush (*Allenrofea occidentalis*), bush seepweed (*Suaeda moquinii*), allscale (*Atriplex polycarpa*), five-hook (*Bassia hyssopiolia)*, fat hen (*Atriplexpatula*), valley sacaton (*Sporobolis airoides*), salt grass (*Distichlis spicata*), saltmarsh sandspurrey (*Spergularia marina*), and veiny pepper-grass (*Lepidium dicyoum*). The wildlife species may include western spadefoot toad (*Scaphiopus hammondi*), blunt-nosed leopard lizard (*Gambelia silus*), San Joaquin whipsnake (M*asticophis flagelium ruddocki*), burrowing owl (*Speoty cnicularia*), San Joaquin kit fox (*Vulpes macrotis mutica*), and Fresno kangaroo rat (*Dipodomys nitratoides exilis*).

Special status species that could occur in agricultural areas of Fresno County include blunt-nosed leopard lizard, Fresno kangaroo rat, Giant kangaroo rat (*Dipodomys ingens*), Tipton kangaroo rat (*Dipodornys nitratoides brevinausus*), short-nosed kangaroo rat (*Dipodomys nitratoides*

brevinausus), San Joaquin kit fox, Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), White-faced ibis, Swainson's hawk, tricolored blackbird, burrowing owl, golden eagle (*Aquila chrysaetos*), American peregrine falcon (*Falco peregrinus anatum*), prairie falcon (*Falco mexicaus*), Aleutian Canadian goose (*Branta candensis leucopareta*), loggerhead shrike (*Lanius ludovicianus*), San Joaquin antelope squirrel (*Ammospermophilus nelsoni*), western spadefoot, San Joaquin pocket mouse (Perognathus inomatus), black-shouldered kite (*Elanus caeruleus*), and Palmate bird's beak (*Cordylanthus palmatus*).

Special status species that could occur in agricultural areas of Kings County include Hoover's wooly start (*Eriastrum hooveri*), San Joaquin wooly threads (*Lembertia congdonii*), blunt-nosed leopard lizard, San Joaquin antelope squirrel, San Joaquin kit fox, Giant Garter snake (*Thamnophis gigas*), Giant kangaroo rat, Valley Elderberry longhorn beetle, California cndor (*Gymnogyps californianus*), Swainson's hawk, American Peregrine falcon, and tricolored blackbird.

Special status species have been identified within WWD boundaries, as summarized in Table 5-3 below.

TABLE 5-3
SPECIAL STATUS SPECIES RECENTLY OBSERVED IN WESTLANDS WATER DISTRICT

SPECIES	COMMON NAME	GENERAL LOCATION	LISTING STATUS	DATE LAST OBSERVED
Eremophila Alpstris actia	California horned lark	East of Interstate 5 near Mountain View Avenue at Panoche Junction	California Specie of Concern	1992
Gambelia silus	Blunt nosed leopard lizard	Near Turney Hills and Polvadero Gap	FE	1979
Petrognathus inornats	San Joaquin pocket mouse	South of Kettleman Compressor Station	Sensitive Specie	1980
Dipodomys nitratoides nitratides	Tipton kangaroo rat	About 3.5 miles south southwest of Lemoore Naval Air Station	FE	1985
Vulpes macrotis mutica	San Joaquin kit fox	Lemoore Naval Air Station	FE	1982
Vulpes macrotis mutica	San Joaquin kit fox	Near Mendota from State Highway 58 to Five Points	FE	1988
Vulpes macrotis mutica	San Joaquin kit fox	Five Points to Antelope Plain	FE	1989
Vulpes macrotis mutica	San Joaquin kit fox	Along the California Aqueduct from Laton south	FE	1992

Santa Clara Valley Water District

Intense urban development that has occurred in the past in Santa Clara County has largely eliminated natural biological resources on the valley floor. Those wildlife species adapted to urban trees and landscaping are present in residential neighborhoods. Remnant stands of native vegetation in parks, along creeks, and at the edge of San Francisco Bay also provide refugium for numerous wildlife species.

Streams crossing the valley floor are often vegetated with willow, Fremontia, cottonwood, box elder, and western sycamore trees. These support migratory and resident birds, deer, small mammals, and a few species of amphibians and reptiles. Streams support warm and cold water fisheries, and some runs of anadromous fish. These types of riparian habitats have been described as Coast Cottonwood – Sycamore Ripairian Forest, and are designated by the California Natural Diversity Data Base as rare and sensitive.

Several types of marshes occur in the county, primarily along the edges of San Francisco Bay and streams, and less common at scattered locations where a year round water supply is at or near the ground surface. Salt marsh occurs in those areas daily flushed by the tides and is generally vegetated with cordgrass and pickleweed. Brackish marsh, where the tides and freshwater inflow mix, is vegetated with bulrushes. Freshwater marsh is vegetated primarily with cattails. Marshes provide special habitat for fish, birds, and amphibians, and represent most of the wetland vegetation in the County. Some of these areas may only be wet on a seasonal basis. SCVWD percolation ponds usually have a narrow strip of freshwater marsh vegetation along their edges.

Several special status species are found in the marshes and riparian areas of Santa Clara County: California clapper rail, salt marsh harvest mouse, salt marsh wandering shrew, salt marsh yellowthroat, Alameda song sparrow, southwestern pond turtle, and California red-legged frog. Federally listed Steelhead and Chinook salmon are anadromous fish that use the stream corridors for spawning and habitat for young fish.

The two mountain ranges to each side of the valley floor are less developed and generally support grassland, chaparral, and oak savannah vegetation. The wet conditions of the coastal Santa Cruz Mountains support redwood forests and other mixed hardwoods at the higher elevations. A greater diversity of wildlife species is associated with the mountain ranges and foothills.

Special status species have been identified within SCVWD boundaries, as summarized in Tables 5-4 and -5 below.

Table 5-4
Special Status Plant Species of Santa Clara County:

Common name *Scientific name*	Status Fed/State/ CNPS	Habitat	Distribution	Flowering period
Franciscan onion *Allium peninsulare* var. *franciscanum*	SC/--/1B	Cismontane woodland, valley and foothill grassland, clay substrates, often on serpentine, 100 - 300 m	Santa Clara, San Mateo and Sonoma Counties	May - June
Sharsmith=s onion *Allium sharsmithiae*	SC/--/1B	Chaparral, cismontane woodland, serpentine, rocky subtrates, 400 - 1,200 m	Alameda, Santa Clara and Stanislaus Counties. Known only from the Mt. Hamilton Range	March - May
Santa Cruz manzanita *Arctostaphylos andersonii*	SC/--/1B	Openings and edges of broadleaf upland forests, chaparral and north coast coniferous forest; 60 -730 m	Santa Clara, Santa Cruz and San Mateo Counties. Known from fewer than 15 occurrences in the Santa Cruz Mountains	November - April
Alkali milk-vetch *Astragalus tener. var. tener*	SC/--/1B	Alkaline flats, vernal pools, playas, valley and foothill grassland (adobe clay); <60 m	Alameda, Merced, Solano, Sonoma Counties (extirpated from Santa Clara Co.)	March-June
San Joaquin saltbush *Atriplex joaquiniana*	SC/B/1B	Alkaline soils in chenopod scrub, valley and foothill grassland; <320 m	Alameda, Contra Costa, Colusa, Glenn, Merced, Monterey, Napa, Sacramento, San Benito, Yolo Counties (extirpated from Santa Clara Co.)	April-October
Big-scale balsamroot *Balsamorhiza macrolepis* var. *macrolepis*	SC/--/1B	Chaparral, cismontane woodland, valley and foothill grassland; sometimes on serpentine; 90 - 1,400 m	Alameda, Butte, Colusa, Lake, Mariposa, Napa, Placer, Santa Clara, Solano, Sonoma and Tehama Counties	March - June
Sharsmith=s harebell *Campanula sharsmithiae*	SC/--/1B	Chaparral; serpentine rocky subtrates; 490 - 855 m	Santa Clara and Stanislaus County. Known from only approximately 5 occurrences	April - June
Chaparral harebell	B/B/1B	Chaparral (rocky, usually	Alameda, Contra	May-June

Common name ***Scientific name***	**Status Fed/State/ CNPS**	**Habitat**	**Distribution**	**Flowering period**
Campanula exigua		serpentinite); 275-1250 m	Costa, San Benito, Santa Clara, Stanislaus Counties	
Tiburon paintbrush *Castilleja affinis* ssp. *neglecta*	FE/CT/1B	Valley and foothill grassland; serpentine substrates; 60 - 400 m	Marin, Napa and Santa Clara Counties. Known from only 6 occurrences.	April - June
Coyote ceanothus *Ceanothus ferrisiae*	FE/--/1B	Chaparral, coastal scrub, valley and foothill grassland; serpentine; 120 - 460 m	Endemic to Santa Clara County. Known from only a few occurrences in the Mt. Hamilton Range	January - May
Congdon=s tarplant *Centromadia parryi* ssp. *congdonii*	SC/--/1B	Valley and foothill grassland; alkaline substrates; 3 - 230 m	Alameda, Contra Costa, Monterey, Santa Clara, San Mateo and San Luis Obispo Counties	June - November
San Francisco Bay spineflower *Chorizanthe cuspidata* var. *cuspidata*	B/B/1B	Coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub/ sandy; 3-215 m	Marin, Santa Clara, San Francisco, Sonoma Counties	April-August
Robust spineflower *Chorizanthe robusta* var. *robusta*	FE/--/1B	Cismontane woodland (openings), coastal dunes, coastal scrub/ sandy or gravelly; 3-300 m	Monterey County (extirpated from Santa Clara County)	April - September
Mt. Hamilton thistle *Cirsium fontinale* var. *campylon*	SC/--/1B	Chaparral, cismontane woodland, valley and foothill grassland, serpentine seeps; 100 -890 m	Alameda, Santa Clara and Stanislaus County	February - October
Lost thistle *Cirsium praeteriens*	--/--/1A	Unknown; <100 m	Known from only two collections from Palo Alto (last in 1901)	June-July
Point Reyes bird=s-beak *Cordylanthus maritimus ssp. palustris*	SC/--/1B	Coastal salt marshes; <10 m	Humboldt, Marin, Sonoma Counties (extirpated from Santa Clara Co.)	June-October
Mt. Hamilton coreopsis *Coreopsis hamiltonii*	SC/--/1B	Cismontane woodland; rocky substrates; 550 - 1,300 m	Alameda, Santa Clara and Stanislaus Counties. Known from fewer than 10 occurrences in the Mt. Hamilton Range	March - May

Common name ***Scientific name***	**Status Fed/State/ CNPS**	**Habitat**	**Distribution**	**Flowering period**
Hospital Canyon larkspur *Delphinium californicum* ssp. *interius*	SC/--/1B	Openings in chaparral, mesic spots in cismontane woodland; 230 - 1,095 m	Alameda, Contra Costa, Merced, San Benito, Santa Clara, San Joaquin and San Luis Obispo Counties	April - June
Western leatherwood *Dirca occidentalis*	--/--/1B	Broadleaf upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest and woodland; mesic sites; 50 - 395 m	Alameda, Contra Costa, Marin, Santa Clara, San Mateo and Sonoma Counties	January - April
Santa Clara Valley dudleya *Dudleya setchellii*	FE/--/1B	Cismontane woodland, valley and foothill grassland; serpentine and rocky substrate; 60 - 455 m	Endemic to Santa Clara County	April - June
Brandegee=s eriastrum *Eriastrum brandegee*ae	SC/--/1B	Chaparral, cismontane woodland; volcanic subtrates; 305 - 1,030 m	Colusa, Glenn, Lake, Santa Clara and Tehama Counties	April - August
Tracy=s eriastrum *Eriastrum tracyi*	--/CR/1B	Chaparral, cismontane woodland; 315 - 760 m	Colusa, Glenn, Santa Clara, Tehama and Trinity Counties	June - July
Hoover=s button celery *Eryngium aristulatum* var. *hooveri*	B/B/1B	Vernal pools; 3-45 m	Alameda, San Benito, Santa Clara, San Luis Obispo Counties	July
Talus fritillary *Fritillaria falcata*	SC/--/1B	Chaparral, cismontane woodland, lower montane coniferous forest; serpentine substrates; often on talus; 300 -1,525 m	Alameda, Monterey, San Benito, Santa Clara and Stanislaus Counties	March - May
Fragrant fritillary *Fritillaria liliacea*	SC/--/1B	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland; often on serpentine; 3 - 410 m	Alameda, Contra Costa, Monterey, Marin, San Benito, Santa Clara, San Francisco, San Mateo, Solano and Sonoma Counties	February - April
Loma Prieta hoita *Hoita strobolina*	--/--/1B	Chaparral, cismontane woodland, riparian woodland; usually on serpentine; mesic sites; 30 -	Santa Clara and Santa Cruz Counties	May - October

Common name ***Scientific name***	**Status Fed/State/ CNPS**	**Habitat**	**Distribution**	**Flowering period**
		600 m		
Contra Costa goldfields Lasthenia conjugens	FE/B/1B	Vernal pools, moist valley and foothill grassland, cismontane woodland; <470 m	Alameda, Contra Costa, Monterey, Napa, Solano Counties (extirpated from Santa Clara Co.)	March-June
Delta tule-pea *Lathyrus jepsonii var. jepsonii*	B/B/1B	Marshes and swamps (freshwater and brackish); < 4m	Alameda, Contra Costa, Napa, Sacramento, San Joaquin, Solano Counties (extirpated from Santa Clara County)	May-September
Legenere *Legenere limosa*	SC/B/1B	Wet areas, vernal pools; <880 m	Lake, Napa, Placer, Sacramento, Santa Clara, Shasta, San Mateo, Sonoma, Tehama, Yuba Counties	April-June
Smooth lessingia *Lessingia micradenia* var. *glabrata*	SC/--/1B	Chaparral, cismontane woodland; serpentine substrates; often along roadsides; 120 - 420 m	Endemic to Santa Clara County	July - November
Mt. Hamilton lomatium *Lomatium observatorium*	--/--/1B	Cismontane woodland; 1,219 - 1,330 m	Santa Clara and Stanislaus Counties	March - May
Arcuate bush mallow *Malacothamnus arcuatus*	B/B/1B	Chaparral; 15-355 m	Santa Clara, Santa Cruz, San Mateo Counties	April-September
Hall=s bush mallow *Malacothamnus hallii*	--/--/1B	Chaparral and coastal scrub; 10 - 760 m	Contra Costa, Merced, Santa Clara, Stanislaus and possibly Alameda Counties	May - September
Oregon meconella *Meconella oregana*	B/B/1B	Coastal Prairie, coastal scrub; 250-500 m	Contra Costa, Santa Clara Counties. Known in California from only 5 occurrences	March-April
Santa Cruz Mountain beardtongue *Penstemon rattanii* var. *kleei*	SC/--/1B	Chaparral, lower montane coniferous forest, North Coast coniferous forest; 400 - 1,100 m	Santa Clara and Santa Cruz Counties	May - June

Common name ***Scientific name***	**Status Fed/State/ CNPS**	**Habitat**	**Distribution**	**Flowering period**
Mt. Diable phacelia *Phacelia phacelioides*	SC/--/1B	Chaparral, cismontane woodland; rocky substrates; 500 - 1,370 m	Contra Costa, San Benito, Santa Clara and Stanislaus Counties	April - May
Hairless popcorn-flower Plagiobothrys glaber	SC/B/1A	Wet, alkaline soils in valleys, coastal marshes, meadows, swamps; 15-180 m	Last confirmed siting in 1954. All collections since 1930's located in Hollister area	April-May
Hooked popcorn-flower *Plagiobothys uncinatus*	SC/--/1B	Chaparral on sandy subtrates, cismontane woodland, valley and foothill grassland; 300 -730 m	Monterey, San Benito, Santa Clara and San Luis Obispo Counties	April - May
Rock sanicle *Sanicula saxatilis*	SC/CR/1B	Broadleaf upland forest, chaparral, valley and foothill grassland; rocky substrates; 620 - 1,175 m	Contra Costa and Santa Clara Counties. Known from fewer than 15 occurrences.	April - May
Maple-leaved checkerbloom *Senecio malachroides*	SC/--/1B	Broadleaf upland forest, coastal prairie, coastal scrub, North Coast coniferous forest; often in disturbed areas; 2 - 700 m	Del Norte, Humboldt, Mendocino, Monterey, Santa Clara, Santa Cruz and Sonoma Counties	April-August
Metcalf Canyon jewelflower *Streptanthus albidus* ssp. *albidus*	FE/--/1B	Valley and foothill grassland; serpentine substrates; 45 - 800 m	Endemic to Santa Clara County	April - July
Most beautiful jewelflower *Streptanthus albidus* ssp. *peramoenus*	SC/--/1B	Chaparral, cismontane woodland, valley and foothill grassland; serpentine substrates; 110 - 1,000 m	Alameda, Contra Costa, Monterey and Santa Clara Counties	April - June
Mt. Hamilton jewelflower *Streptanthus callistus*	SC/--/1B	Chaparral and cismontane woodland; 600 - 790 m	Endemic to Santa Clara County. Known from approximately 5 occurrences in the Mt. Hamilton Range	April - May
California seablite *Sueda californica*	FE/--/1B	Costal salt marshes and swamps; 0 -5 m	San Luis Obispo County (extirpated from Santa Clara County)	July - October

Common name *Scientific name*	Status Fed/State/ CNPS	Habitat	Distribution	Flowering period
Showy indian clover *Trifolium amoenum*	FE/B/1B	Moist, heavy soils and disturbed areas in valley and foothill grassland (sometimes ultramafic), coastal bluff scrub; 5-415 m	Marin County (extirpated from Santa Clara County). Rediscovered in 1993 near	April-June
Saline clover *Trifolium depauperatum* var. *hydrophilum*	SC/--/1B	Marshes and swamps, mesic and alkaline places in valley and foothill grassland, vernal pools; 0 - 300 m	Alameda, Monterey, Napa, San Benito, Santa Clara, San Luis Obispo, San Mateo, Solano and Sonoma Counties; possibly Colusa County	April - June
Caper-fruited tropidocarpum *Tropidocarpum capparideum*	SC/B/1A	Alkaline soils, low hills, valley and foothill grassland; <155 m	Presumed extinct in California. Last seen in 1957.	March-April

Status explanations:

Federal:
SC = Federal species of concern
FE = Federally listed as endangered
PE = Proposed for federal listing as endangered

State:
CT = State listed as threatened
CR = State listed as rare

CNPS:
1B = Rare or endangered in California and elsewhere.
2 =Rare or endangered in California; more common elsewhere.
3 =Need more information. Typically assigned to plants with significant taxonomic or and/or distributional and abundance questions.
4 =Plants of limited distribution. A Awatch list@ category for relatively more common rare plants.

Special-status plant species of Santa Clara County:

Common name *Scientific name*	Status Fed/State/CNPS	Habitat	Distribution	Flowering period
Slender-leaved pondweed *Potamogeton filiformis*	B/B/2	Shallow, clear freshwater of lakes and drainage channels, marshes and swamps; 300-2150 m	Contra Costa, Lassen, Merced, Mono Counties (extirpated from Santa Clara County); widespread outside of California	May-July
Rayless ragwort *Senecio aphanactis*	B/B/2	Chaparral, cismontane woodland, coastal scrub/alkaline; 15-800 m	Del Norte, Humboldt, Mendocino, Monterey, Santa Clara, Santa Cruz Counties	April-August
Santa Cruz Mountains Pussypaws *Calyptridium parryi* var. *hesseae*	B/B/3	Chaparral (rocky, usually serpentinite); 275-1250 m	Alameda, Contra Costa, San Benito, Santa Clara, Stanislaus Counties	May-June
Tiburon buckwheat *Eriogonum luteolum* var. *caninum*	B/B/3	Chaparral, coastal prairie, valley and foothill grassland serpentinite; 10-500 m	Alameda, Colusa, Lake, Marin, Napa, Santa Clara, San Mateo Counties	June-September
Wooly-headed lessingia *Lessingia hololeuca*	B/B/3	Broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland/ clay, serpentinite; 15-305 m	Alameda, Monterey, Marin, Napa, Santa Clara, San Mateo, Solano, Yolo Counties	June-October
Mt. Diablo cottonweed *Micropus amphibolus*	B/B/3	Broadleafed upland forest, chaparral, cismontane woodland, valley foothill grassland/ rocky; 45-825 m	Alameda, Contra Costa, Colusa, Lake, Monterey, Marin, Napa, Santa Barbara, Santa Clara, Santa Cruz, Solano, Sonoma Counties	March-May
San Antonio Hills monardella *Monardella antonina* ssp. *antonina*	B/B/3	Chaparral, cismontane woodland; 500-1000 m	Alameda (?), Contra Costa (?), Monterey, San Benito (?), Santa Clara (?) Counties	June-August
California androsace *Androsace elongata* ssp. *acuta*	B/B/4	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; 150-1200 m	Alameda, Contra Costa, Colusa, Fresno, Glenn, Kern, Merced, San Bernardino, San Benito, Santa Clara, San Diego, Siskiyou, San Joaquin, San Luis Obispo, Tehama Counties	March-June
Santa Clara thorn-mint *Acanthomintha lanceolata*	B/B/4	Chaparral (often serpentinite), cismontane woodland, coastal scrub/ rocky; 80-1200 m	Alameda, Fresno, Merced, Monterey, San Benito, Santa Clara, Stanislaus Counties	March-June

Common name *Scientific name*	Status Fed/State/CNPS	Habitat	Distribution	Flowering period
Mexican mosquito fern *Azolla mexicana*	B/B/4	Marshes and swamps (ponds, slow water?); 30-100 m	Butte, Kern, Lake, Modoc, Nevada, Plumas, Santa Clara, San Diego, Tulare Counties	August
Brewer=s calandrinia *Calandrinia breweri*	B/B/4	Chaparral, coastal scrub/ sandy or loamy, disturbed sites and burns; 10-1220 m	Contra Costa, Los Angeles, Mendocino, Monterey, Mariposa, Marin, Santa Barbara, San Bernardino, Santa Clara, Santa Cruz Island, San Diego, San Luis Obispo, San Mateo, Sonoma, Santa Rosa Island, Ventura Counties	March-June
Oakland star-tulip *Calochortus umbellatus*	B/B/4	Broadleafed upland forest, chaparral, cismontane woodland, lower coniferous forest, valley and foothill grassland/ often serpentinite; 100-700 m	Alameda, Contra Costa, Lake, Marin, Santa Clara, Santa Cruz, San Mateo, Stanislaus Counties	March-May
Brewer=s clarkia *Clarkia breweri*	B/B/4	Chaparral, cismontane woodland, coastal scrub/ often serpentinite; 215-1000 m	Alameda, Fresno, Merced, Monterey, San Benito, Santa Clara, Stanislaus	April-May
Santa Clara red ribbons *Clarkia concinna* ssp. *automixa*	B/B4	Chaparral, cismontane woodland; 90-1500 m	Alameda, Santa Clara	April-July
Clustered lady=s slipper *Cyprepedium fasciculatum*	SC/--/4	Lower montane coniferous forest, North Coast Coniferous forest; usually on serpentine seeps and streambanks; 100 - 2,435 m	Butte, Del Norte, Humboldt, Nevada, Plumas, Santa Clara, Shasta, Sierra, Siskiyou, San Mateo, Tehama, Trinity and Yuba Counties	March to July
Clay-loving buckwheat *Eriogonum argillosum*	B/B4	Cismontane woodland (serpentinite or rocky)	Monterey, San Benito, Santa Clara Counties	March-June
Bay buckwheat *Eriogonum umbellatum* var. *bahiforme*	B/B/4	Cismontane woodland, lower montane coniferous forest/ rocky, often serpentinite; 700-2200 m	Alameda, Contra Costa, Colusa, Glenn, Humboldt, Lake, Mendocino, Monterey, Napa, San Benito, Santa Clara, Siskiyou, San Joaquin, Stanislaus Counties	July-September
Jepson=s wooly sunflower *Eriophyllum jepsonii*	B/B/4	Chaparral, cismontane woodland, coastal scrub/ sometimes serpentinite; 200- 1025 m	Alameda, Contra Costa, Kern, San Benito, Santa Clara, Stanislaus Counties	April-June

Common name *Scientific name*	Status Fed/State/CNPS	Habitat	Distribution	Flowering period
San Francisco wallflower *Erysimum franciscanum*	B/B4	Chaparral, coastal dunes, coastal scrub, valley and foothill grassland/ often serpentinite or granitic; <520 m	Marin, Santa Clara, Santa Cruz, San Francisco, San Mateo, Sonoma Counties	March-June
Serpentine bedstraw *Galium andrewsii* ssp. *gatense*	B/B/4	Chaparral, cismontane woodland, lower montane coniferous forest/ serpentinite, rocky; 150-1450 m	Alameda, Contra Costa, Fresno, Monterey, San Benito, Santa Clara, San Luis Obispo Counites	April-July
Satan=s goldenbush *Isocoma menziesii* var. *diabolica*	B/B4	Cismontane woodland; 15-400 m	San Benito, Santa Clara Counties	August-October
Serpentine linanthus *Linanthus ambiguus*	B/B4	Cismontane woodland, coastal scrub, valley and foothill grassland/ usually serpentinite; 120-1130 m	Alameda, Contra Costa, Merced, San Benito, Santa Clara, Santa Cruz, San Joaquin, San Mateo, Stanislaus Counties	March-June
Large-flowered linanthus *Linanthus grandiflorus*	B/B4	Coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal dunes, coastal prairie, coastal scrub, valley and foothill grassland/ usually sandy; 5-1220 m	Alameda, Kern, Madera, Merced, Monterey, Marin, Santa Clara, Santa Cruz, San Francisco, San Luis Obispo, San Mateo, Sonoma Counties	April-August
Dusky-fruited malacothrix *Malacothrix phaeocarpa*	B/B4	Closed-cone coniferous forest, chaparral/ openings; burned or disturbed areas; 100-1400 m	Monterey, Santa Barbara, Santa Clara, San Luis Obispo Counties	April-June
Sylvan microseris *Microseris sylvatica*	B/B/4	Chaparral, cismontane woodland, Great Basin scrub, Pinyon and juniper woodland, valley and foothill grassland (serpentinite); 45-1500 m	Alameda, Amador, Butte, Contra Costa, Colusa, Fresno, Glenn, Kern, Lassen, Los Angeles (?), Merced, Napa, Nevada, Placer, San Benito, Solano, Stanislaus, Sutter, Tehama, Tuolumne, Tulare, Yolo Counties. Extirpated from Santa Clara County	March-June
Cotula navarretia *Navarretia cotulifolia*	B/B/4	Chaparral, cismontane woodland, valley and foothill grassland/ adobe; 4-1830 m	Alameda, Butte, Contra Costa, Colusa, Glenn, Lake, Mendocino, Marin, Napa, San Benito, Santa Clara, Siskiyou (?), Solano, Sonoma, Sutter, Yolo Counites	May-June

Common name *Scientific name*	Status Fed/State/CNPS	Habitat	Distribution	Flowering period
Gairdner=s yampah *Perideridia gairdneri* ssp. *gairdneri*	B/B4	Broadleafed upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools/ mesic; <365 m	Contra Costa, Kern, Mendocino, Monterey, Marin, Napa, San Benito, Santa Clara, Santa Cruz, San Luis Obispo, San Mateo (?), Solano, Sonoma Counties	June-October
Narrow-petalled rein orchid *Piperia leptopetala*	B/B4	Cismontane woodland, lower montane coniferous forest, upper coniferous forest; 380-2225 m	El Dorado, Fresno, Lake, Los Angeles, Monterey, Mariposa, Nevada, Orange, Plumas, Riverside, San Bernardino, San Benito, San Diego, Santa Clara, Shasta, Siskiyou, San Luis Obispo, Sonoma, Tulare Counties	May-July
Michael=s rein orchid *Piperia michaelii*	B/B4	Coastal bluff scrub, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest; 3-915 m	Alameda, Amador, Butte, Contra Costa, Fresno, Humboldt, Monterey, Marin, Santa Barbara, San Benito, Santa Clara, Santa Cruz, Santa Cruz Island, San Francisco, San Luis Obispo, San Mateo, Stanislaus, Tulare, Tuolumne, Ventura (?), Yuba Counties	April-August
Hickman=s popcorn flower *Plagiobothrys chorisianus* var. *hickmanii*	B/B/4	Closed-cone conifereous forest, chaparral, coastal scrub, marshes, swamps, vernal pools; 15-185 m	Monterey, San Benito, Santa Clara, Santa Cruz, San Luis Obispo, San Mateo (?) Counties	April-June
Forget-me-not popcorn-flower *Plagiobothrys myosotoides*	B/B4	Chaparral; 500-2000 m	Fresno, Santa Clara, Tulare Counties	April-May
Delta woolly-marbles *Psilocarphus brevissimus* var. *multiflorus*	B/B/4	Vernal pools; 20-500 m	Alameda, Napa, Santa Clara, San Joaquin, Solano, Stanislaus, Yolo Counties	May-June
Lobb=s aquatic buttercup *Ranunculus lobbii*	B/B/4	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools/ mesic; 15-470 m	Alameda, Contra Costa, Mendocino, Marin, Napa, Santa Clara, Sonoma Counties	February-May

Data Source: California Dept. Fish & Game Natural Diversity Database; California Native Plant Society Electronic Inventory.
Data date: January 15, 2004
Status explanations:

Federal:
SC = Federal species of concern
FE = Federally listed as endangered
PE = Proposed for federal listing as endangered

State:
CT = State listed as threatened
CR = State listed as rare

CNPS:
1B = Rare or endangered in California and elsewhere.
2 =Rare or endangered in California; more common elsewhere.
3 =Need more information. Typically assigned to plants with significant taxonomic or and/or distributional and abundance questions.
4 =Plants of limited distribution. A watch list category for relatively more common rare plants.

Table 5-5
Special Status Wildlife Species
Santa Clara County

Common Name	Federal Status	California Status	Habitat	Potential for Occurrence
Invertebrates				
Opler=s Longhorn Moth *Adela oplerella*	FSC	---	Serpentine and other soils where California cream cups are present	Known to occur in Santa Clara County.
Bay Checkerspot Butterfly *Euphydryas editha bayensis*	FT	---	Serpentine soils where native plantain and owl's clover are present	Known to occur in Santa Clara County.
Fish				
Steelhead/Rainbow Trout (South/Central California ESU) *Oncorhynchus mykiss*	FT	CSC	Rear and spawn in relatively undisturbed upper watershed areas, migrate through lower watershed reaches.	Known to occur in Santa Clara County.
Steelhead/Rainbow Trout (Central California ESU) *Oncorhynchus mykiss*	FT	---	Rear and spawn in relatively undisturbed upper watershed areas, migrate through lower watershed reaches.	Known to occur in Santa Clara County.
Chinook Salmon (Central valley Fall/Late-fall Run) *Oncorhynchus tschawytscha*	FC	CSC	Typically larger coastal and Central Valley streams.	Known to occur in Santa Clara County.

Eulachon *Thaleichthys pacificus*	---	CSC	Pacific Ocean from northern California to Alaska, spawn in coastal streams from Redwood Creek in Northern California to Bristol Bay Alaska	Incidental occurrence only.
Amphibians				
California Tiger Salamander *Ambystoma californiense*	FC	CSC	Vernal pools and permanent waters in grasslands; burrows in adjacent upland sites	Known to occur in Santa Clara County
California Red-legged Frog *Rana auroura draytonii*	FT	CSC	Streams and ponds, often with emergent or riparian vegetation	Known to occur in Santa Clara County
Foothill Yellow-legged Frog *Rana boylii*	FSC	CSC	Shallow, flowing streams with some cobble-sized substrate	Known to occur in Santa Clara County
Reptiles				
Western Pond Turtle *Clemmys marmorata*	FSC	CSC	Slow-moving streams or ponds, with aquatic vegetation, and adjacent upland habitat	Known to occur in Santa Clara County
California Horned Lizard *Phrynosoma coronatum frontale*	FSC	CSC	Variety of upland habitats that have low-bushes for cover, openings for sunning, and loose soil for burrows, usually greater than 1 mile from urban development	Known to occur in Santa Clara County
San Francisco Garter Snake *Thamnophis sirtalis tetrataenia*	FE	SE; Fully Protected	Wet meadows, marshes, irrigation ditches, and adjacent upland habitats	Suspected to occur in NE portion of Santa Clara County
Birds				
Western Least Bittern *Ixobrychus exilis hesperis*	FSC	CSC	Freshwater and tidal marshes; nests in emergent vegetation	Known to occur in Santa Clara County.
Copper=s Hawk (nesting) *Accipiter cooperii*	---	CSC	Forages in a variety of habitats, from open areas to dense forests; nests in oak woodlands, other mixed evergreen forest, or coniferous forest.	Known to occur in Santa Clara County
Sharp-shinned Hawk (nesting) *Accipiter striatus*	---	CSC	Forages in a wide variety of coniferous, mixed, or deciduous woodlands; nests in coniferous or mixed	Known to occur in Santa Clara County.

			forests, usually selecting a conifer for the nest tree.	
Golden Eagle (nesting and wintering) *Aquila chrysaetos*	---	CSC; Fully Protected	Forages in open grasslands and agricultural areas; nests in large trees, on shelves of cliffs or embankments	Known to occur in Santa Clara County.
Northern Harrier (nesting) *Circus cyaneus*	---	CSC	Forages in marshes, moist grasslands and meadows; nests on the ground in grassy or vegetated areas that are usually well concealed.	Known to occur in Santa Clara County.
White-tailed Kite (nesting) *Elanus leucurus*	---	Fully Protected	Forages in open meadows, grasslands, and agricultural fields; nests in moderately tall trees (15 to 75 ft.)	Known to occur in Santa Clara County
Merlin *Falco columbarius*	---	CSC	Forages over grasslands and other open areas.	Known to occur in Santa Clara County
California Black Rail *Rallus jamaicensis coturniculus*	FSC	ST; Fully Protected	Tidal sloughs dominated by pickleweed, but also in freshwater marshes in bulrushes or cattails	Known to occur in Santa Clara County
California Clapper Rail *Rallus longirostris obsoletus*	FE	SE; Fully Protected	Saltwater marshes and tidal sloughs, dominated by pickleweed and cordgrass	Known to occur in Santa Clara County
Western Snowy Plover (nesting) *Charadrius alexandrinus nivosus*	FT	CSC	Sandy marine and estuarine shores, including salt pond levees	Known to occur in Santa Clara County
California Gull (nesting colony) *Larus californicus*	---	CSC	Nests on islands in alkali or freshwater lakes and salt ponds	Known to occur in Santa Clara County.
California Least Tern (nesting colony) *Sterna antillarum*	FE	SE; Fully Protected	Forages in estuaries where small fish are abundant; nests in loose colonies on gravel or sandy substrate	Does not breed in Santa Clara County.[2] Known to occur in Santa Clara County
Long-eared Owl (nesting) *Asio otus*	---	CSC	Riparian and oak woodlands	Known to occur in Santa Clara County
Short-eared Owl (nesting) *Asio flammeus*	---	CSC	Grasslands, agricultural areas, and marshes	Known to occur in Santa Clara County
Burrowing Owl (burrowing sites) *Athene cunicularia*	FSC	CSC	Grasslands and agricultural areas	Known to occur in Santa Clara County
Loggerhead Shrike	FSC	CSC	Grasslands and agricultural	Known to occur in

Lanius ludovicianus			areas	Santa Clara County
Least Bell=s Vireo (nesting) *Vireo bellii pusillus*	FE	SE	Riparian woodland	Known to occur in Santa Clara County
California Horned Lark *Eremophila alpestris actia*	---	CSC	Grasslands and agricultural areas	Known to occur in Santa Clara County
Purple Martin (nesting) *Progne subis*	---	CSC	Riparian and oak woodlands, and open coniferous forests	Known to occur in Santa Clara County
Yellow Warbler (nesting) *Dendroica petechia brewsteri*	---	CSC	Riparian woodland, montane chaparral, and open mixed coniferous habitats	Known to occur in Santa Clara County
Saltmarsh Common Yellowthroat *Geothlypis trichas sinuosa*	FSC	CSC	Salt and brackish marshes	Known to occur in Santa Clara County
Alameda Song Sparrow *Melospiza melodia pusillula*	FSC	CSC	Salt and brackish marshes	Known to occur in Santa Clara County
Tricolored Blackbird (nesting colony) *Agelaius tricolor*	FSC	CSC	Freshwater marsh and dense riparian vegetation	Known to occur in Santa Clara County
Mammals				
Saltmarsh Wandering Shrew *Sorex vagrans halicoetes*	FSC	CSC	Salt marsh	Known to occur in Santa Clara County
San Francisco Dusky-footed Woodrat *Neotoma fuscipes annectens*	FSC	CSC	Forested, chaparral, and riparian habitats	Known to occur in Santa Clara County
Saltmarsh Harvest Mouse *Reithrodontomys raviventris*	FE	SE; Fully Protected	Salt marsh dominated by pickleweed	Known to occur in Santa Clara County
Ringtail *Bassariscus astutus*	---	Fully Protected	Chaparral and riparian habitats	Known to occur in Santa Clara County

Federal Status

FC-Candidate to become a proposed species for listing as Endangered or Threatened

FE-Listed as Endangered

FT-Listed as Threatened

FSC-Federal Species of Special Concern

California Status

SE-Listed as Endangered

ST-Listed as Threatened

CSC-California Species of Special Concern

Fully Protected- Species may not be taken, under the State Fish and Game Code possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected mammal and no permits or licenses heretofore issued shall have any force or effect for that purpose.

5.4.2 ENVIRONEMNTAL CONSEQUENCES

5.4.2.1 NO ACTION

Westlands Water District and Santa Clara Valley Water District

As stated in the 1999 EA, implementation of the "Related Agreement" would have no effect on biological resources in either WWD or SCVWD. The No-Action Alternative provides for the continuation of the water supply provided under the existing interim contract. The contract requires no new construction for delivery of water that could effect vegetation and wildlife habitat within the WWD or SCVWD service areas. In SCVWD, assuming that this CVP water is transported to either creeks or ponds of Santa Clara County for percolation to the groundwater, the amount of added water is minor compared to that otherwise present in these facilities during normal and dry years. Therefore the provision of water pursuant to a renewed contract is not expected to create or alter vegetation or wildlife over the long-term. It may result in slightly longer periods of time in which percolation ponds are functioning, or slightly higher flows may be present in some creeks. The outcome of providing this contract supply would not likely adversely affect special status species, alter riparian or wetland habitats, nor interfere with the movement of terrestrial wildlife or fish.

Pajaro Valley Water Management Agency

PVWMA currently receives no water under the existing interim contract but could, in the future, pursuant to the terms of the Related Agreement. The renewal of Contract Number 14-06-200-3365A, assuming delivery of CVP water to PVWMA, would replace some pumped water with delivered water to existing agricultural uses identified in Section 5.3.

As stated in the Revised BMP EIS, PVWMA is proposing to provide CVP water to existing irrigated agricultural uses currently relying on groundwater. The PVWMA service area is now included in the CVP Consolidated Place of Use, pursuant to orders issued by the SWRCB, Division of Water Rights, dated July 19, 2002. The orders approved a change in Place of Use and amended 13 of Reclamation's CVP water right permits to include 30,000 net acres within a gross area of 70,000 acres in the PVWMA service area, as shown on USBR Map #214-208-12480, dated November 1, 1996.

PVWMA's Water Supply Project assumes no net change in the total number of acres under irrigation in the PVWMA, although water use in the agricultural sector is expected to increase somewhat due to a shift in crop types (that approximately 2,000 acres of deciduous crops would be converted to berry crops). It would be possible in the future, and authorized in the water rights permit, for PVWMA to extend CVP water service to currently non-agricultural lands. This raises the potential for land use changes in the future, such as conversion of native lands to agricultural uses, which could have significant environmental impacts. Predicting exactly what and where the impacts would occur would be speculative. Nonetheless, on February 5, 2002, PVWMA adopted the following measures as conditions of project approval to mitigate this potential future impact:

- **CEQA Compliance.** Delivery of CVP water for use in areas beyond the 30,200 acres of agricultural lands [shown in Figure 4.C-2 of the Revised BMP EIR] shall be permitted only

in accordance with the terms for delivery to Contractor's Service Area pursuant to any contract for the delivery of CVP water between Reclamation and PVWMA, and in accordance with any and all laws, including CEQA and NEPA. The appropriate local land use agency will be the lead agency for preparation of an environmental document for any proposed land use changes; PVWMA will be the lead agency for any actions specific to water system improvements or other PVWMA actions needed to provide CVP water [to areas beyond those shown in Figure 4.C-2].

- **Endangered Species Act Compliance.** PVWMA will not deliver water for the purpose of converting any native lands to agriculture uses unless and until the project sponsor has complied with the Endangered Species Act and has determined that such conversion will not likely affect listed species or that appropriate mitigation has been provided. PVWMA intends to provide CVP water to existing irrigated agricultural lands. PVWMA currently is not proposing to provide any CVP water for M&I purposes, nor is it proposing to provide CVP water outside of the approximately 30,200 acres of agricultural lands [shown in Figure 4.C-2 of the Revised BMP EIR]. If PVWMA is the lead agency for development of water system improvements and construction or operation of those improvements or any other PVWMA actions that could adversely affect threatened or endangered species, PVWMA will consult with the appropriate resource agency (California Department of Fish and Game, US Fish and Wildlife Service, and/or National Oceanic Atmospheric Administration, formerly, National Marine Fisheries Service) pursuant to all applicable laws, including CEQA and NEPA. PVWMA will implement project-specific mitigation measures and permit conditions as appropriate.

5.4.2.2 ALTERNATIVES 1 and 2

Similar to the discussion above for the No-Action Alternative, Alternatives 1 and 2 would not result in adverse impacts on biological resources, including fish, vegetation, and wildlife, within the WWD service area or Santa Clara County, and adverse impacts in the PVWMA service area will be avoided through measures already adopted by the PVWMA Board of Directors. The renewal of Contract Number 14-06-200-3365A would only continue water deliveries that accommodate the land uses identified in Section 5.3. Implementation of Alternatives 1 and 2 would not significantly impact the production of agriculture or affect other existing land uses. No habitat that supports special status species would be converted to agricultural, municipal or industrial use as a result of this action.

5.4.2.3 CUMULATIVE IMPACTS

Cumulative impacts on a CVP-wide basis were adequately addressed in the CVPIA PEIS, from which this EA tiers. The analysis provides the programmatic cumulative analysis for the No-Action Alternative to which Alternatives 1 and 2 can be compared. Since the differences among the alternatives are essentially administrative/financial contractual features, there would be no addition to cumulative impacts associated with implementation of the CVPIA to biological resources would be the same under all alternatives.

Beyond those cumulative impacts, there are no additional impacts attributed to Alternatives 1 or 2 that would contribute to cumulative biological impacts.

5.5 CULTURAL RESOURCES

5.5.1 AFFECTED ENVIRONMENT

Pajaro Valley Water Management Agency

The ethnographically documented aboriginal inhabitants of the PVWMA service area were part of the Ohlone, or Costanoan, language group, which extended from the San Francisco Bay area south to the southern Monterey Bay and lower Salinas River areas. Ohlone/Costonoan languages were spoken in a large area extending from the San Francisco Bay area, southward along the coast to Point Sur, and inland to the Diablo Range and portions of the northern San Joaquin Valley. Four groups are noted within the project area: Tiuvta, Unijaima, Motsun, and Ausaima. The Tiuvta were a tribelet within the Calendruc tribe that occupied the Pajaro River, Elkhorn Slough, and lower Salinas River areas. The Unijaima lived in the mountains and plains of southwestern Santa Clara Valley, north of the Pajaro River, while the Motsun lived in the San Juan Valley and in the mountains southwest of the valley. The Ausaima lived in the eastern portion of the San Felipe Sink and the hills on the west side of Pacheco Pass. The history of the Monterey Bay and the southern Santa Clara Valley regions can be divided generally to three periods: Spanish arrival and colonization, Mexican independence and the ranchos, and Anglo-American expansion. The latter half of the 19th century saw a continued Anglo-American immigration into the project area, and consequent changes in the culture and economy of the area. By the 20th century, farming activities predominated both the Pajaro Valley and southern Santa Clara Valley. Native American artifacts and occasional burials are most frequently found near waterways in the project area.

Westlands Water District: In the WWD area, during the prehistoric period, the San Joaquin Valley supported extensive populations of Native Americans, principally Northern Valley Yokuts. By the mid-19th century, after Spanish and Mexican incursions and the introduction of European-born epidemics, Native American populations declined and became culturally extinct in the San Joaquin Valley by mid-19th century. The extent of cultural studies in the San Joaquin Valley is limited. The reclamation of land and intensive arming practices over the last century has removed destroyed many Native American occupation sites (WWD Water Supply Replacement Project EIR, 1989).

Santa Clara Valley Water District: The Ohlone, or Costanoan, Indians inhabited the Santa Clara County area in prehistoric times. The Ohlones were gathers and hunters who utilize native flora and fauna such as acorns, tule, ducks, and deer for food, shelter, and trade items. Beginning in the late 1700's, Spanish explorers and missionaries arrived in Santa Clara County. Settlers began to develop land in Santa Clara County first as ranchland, and by the mid-1800's as agricultural land, particularly for orchards. Many settlements during prehistoric and historic times were located adjacent to water ways. Native American artifacts and occasional burials are most frequently found in association with existing or prior locations of creeks. Many of the historic neighborhoods and buildings are associated with the original settlements along the Guadalupe River, including the Pueblo de San Jose, which was the first civil settlement in Alta California.

5.5.2 ENVIRONMENTAL CONSEQUENCES

5.5.2.1 NO ACTION

As stated in the 1999 EA, implementing the "Related Agreement" would have no effect on cultural resources in either WWD, SCVWD, or PVWMA. The long-term renewal of the contract would not require nor induce any new structures, or construction activities, or result in physical changes to the environment; thus cultural resources would not be affected. As stated in Chapter 1, the development of new facilities is required prior to the PVWMA being able to take delivery of CVP Water. However, the development of these facilities is not part of the Renewal of Long-term Contract Number 14-06-200-3365A, but is part of the PVWMA Revised Basin Management Plan and the effects of this action are being addressed in the Revised BMP EIS.

5.5.2.2 ALTERNATIVES 1 AND 2

Alternatives 1 and 2 are assumed to have similar effects to cultural resources as the No-Action Alternative. Therefore, there are no environmental impacts anticipated from the implementation of Alternative 1 and 2.

5.5.2.3 CUMULATIVE IMPACTS

Cumulative impacts associated with implementation of the CVPIA, which include long term CVP water supply contract renewal, were adequately evaluated in the CVPIA PEIS upon which this EA is tiered. The PEIS analysis provides the programmatic cumulative analysis for the No-Action Alternative to which Alternatives 1 and 2 can be compared. Since the differences among the alternatives are essentially contractual features, cumulative impacts associated with implementation of the CVPIA to cultural resources would be the same under all alternatives.

Implementing the long-term renewal of Contract Number 14-06-200-3365A under each of the alternatives would continue the provision of CVP water pursuant to the Related Agreement. Since this is intended to be a dry year supply to help reduce the effect of water shortages, cumulative water deliveries will be within historical levels, resulting in no change to existing conditions for water uses in WWD and SCVWD. The contract renewal action would not result in construction of new facilities or introduction of additional structures into the WWD, PVWMA or SCVWD and Reclamation water supply system. Therefore, no physical change to the environment would result from renewal of the long-term water supply contract under any of the alternatives. The differences among the alternatives are contractual features including water cost, definition of M&I users, and M&I users, and water measurement. None of the alternatives would change water service amount, increase water system capacity, or introduce new facilities. Therefore, there would be no direct cumulative impacts to cultural resources from the contract renewal action.

5.6 SOCIOECONOMICS

5.6.1 AFFECTED ENVIRONMENT

Westlands Water District

The socioeconomic setting is dependant upon population, employment, housing, and revenues earned by the primary private employers. The majority of human resources within WWD and

surrounding lands, including Firebaugh, Coalinga, Lemoore, Avenal, Tranquility, Kettlemant City, Huron, Mendota, and San Joaquin are located near WWD. These predominantly Hispanic communities, though relatively small and similar in size, have undergone varying rates of population growth over the years, which can be heavily influenced by the agricultural economy. WWD lies within an area of western Fresno and Kings Counties. Agriculture is vitally important in both counties, with agriculture being Fresno County's major industry. Fresno County consistently ranks among the top agricultural counties in the Country's agricultural production and employment. WWD's gross agricultural output totaled approximately $773 million in 1994, which represented approximately 25.1% of Fresno County's $3.084 billion in agricultural output in 1994. **(WWD Annual Report**).

Santa Clara Valley Water District: Santa Clara County ranks fourth in the State in terms of population and jobs. Its industries provide more than 6 percent of the State's employment with a gross regional product of more than $40 billion annually (SCVWD, January 1997). The County is a major employment center for the region, providing more than a quarter of all jobs in the Bay Area.

Population growth in Santa Clara County is expected to continue, but at slower rates than in the past. Most of the population growth is expected to occur in San Jose to a somewhat lesser extent, in the South County, while the north and west valley cities are expected to experience relatively little population growth (County of Santa Clara, undated).

The economy of Santa Clara County remains the strongest in the Bay Area and one of the strongest in the nation. The County, together with adjacent parts of San Mateo, Alameda, and Santa Cruz Counties, comprise the "Silicon Valley". The regions economy is expected to continue to grow and diversify in the future with high technology industries fueling most of the County's employment growth. Another expected trend is the change in location of employment away from previous major employment centers. As the northwestern cities have approached build out, new job growth has shifted southward into Santa Clara County and San Jose and eastward toward Milpitas and southern Alameda County. (County of Santa Clara, updated).

While Santa Clara County has 27% of the Bay Area's jobs, it contains only 23% of the regions households. This greater share of jobs than households is projected to continue through the year 2010. The Association of Bay Area Governments (ABAG) estimates that approximately 7% of County jobs will be filled by persons residing in other parts of the region, primarily Alameda, San Mateo, and Santa Cruz counties. (County of Santa Clara, updated).

Pajaro Valley Water Management Agency.

The Pajaro Valley consists of approximately 120 square miles of rich, loamy soils that are well suited to agricultural production. The valley's commercial center is the City of Watsonville and agriculture is the area's principal economic activity. The combination of Pajaro Valley's unique marine climate and its fertile soils makes the area one of the most productive agricultural regions in the world. Annually, the valley produces on average over $530 million in vegetable, berry and ornamental crops (in 2001 dollar terms) on over 30,000 acres of agricultural acreage (Santa Cruz County, 1998). The gross revenue per cultivated acre averages more than $17,600 per acre.

5.6.2 ENVIRONMENTAL CONSEQUENCES

5.6.2.1 NO ACTION

Westlands Water District and Santa Clara Valley Water District
As stated in the 1999 EA, implementation of Contract Number 14-06-200-3365A would have no effect on socioeconomics. The delivery of CVP water during dry years would not induce population growth within Santa Clara County since the contract does not provide for a reliable or long-term source of water and is small in comparison to the water currently available during normal and dry years. Consequently, the outcome of the No-Action would not have any affect on housing or displacement of people.

Pajaro Valley Water Management Agency
PVWMA currently receives no water under the existing interim contract but could, in the future, pursuant to the terms of the Related Agreement. The renewal of Contract Number 14-06-200-3365A, assuming delivery of CVP water to PVWMA, would replace the interim contract and allow imported water to continue to be delivered in place of pumped groundwater for irrigation of existing agricultural uses identified in Section 5.3.

As stated in the Revised BMP EIS, without a supplemental source of water, it is assumed that basin-wide groundwater pumping restrictions would be imposed in order to bring the groundwater basin into balance and to curtail seawater intrusion. This action would restrict agricultural water supplies to 12,200af/y, and 80 percent reduction from current levels. It is estimated that the groundwater restrictions would result in approximately 25,660 acres of lost agricultural production. The projected decrease in agricultural production is estimated at $372 million and would result in a loss of approximately 9,225 agricultural jobs in the region. This would represent a significant long-term adverse impact on the regional economy. Consequently, the continued delivery of a long-term supplemental supply source via the renewal of the contract, either the No Action Alternative or Alternatives 1 or 2 would have a positive long-term impact on the region's agricultural economy and help preserve agricultural production in the Pajaro Valley.

5.6.2.2 ALTERNATIVES 1 and 2
Westlands Water District and Santa Clara Valley Water District
Alternatives 1 and 2 are assumed to have similar effects on M&I water costs, water use and land within the affected region as the No-Action Alternative. Therefore, there are no environmental impacts on this alternative.

Pajaro Valley Water Management Agency.
See Section 5.6.2.1.

5.6.2.3 CUMULATIVE IMPACTS
Cumulative impacts associated with implementation of the CVPIA, which include long term CVP water supply contract renewal, were adequately evaluated in the CVPIA PEIS upon which this EA is tiered. The PEIS analysis provides the programmatic cumulative analysis for the No-Action Alternative to which Alternatives 1 and 2 can be compared. Since the differences among the alternatives are essentially contractual features, cumulative impacts associated with

implementation of the CVPIA to socioeconomic resources would be the same under each of the alternatives.

Implementing the long-term renewal of Contract Number 14-06-200-3365A under each of the alternatives would continue the provision of CVP water pursuant to the Related Agreement. Since this is intended to be a dry year supply to help reduce the effect of water shortages, cumulative water deliveries will be within historical levels, resulting in no change to existing conditions for water uses in WWD and SCVWD. The differences among the alternatives are contractual features including water cost, definition of M&I users, and M&I users, and water measurement. None of the alternatives would change water service amount, increase water system capacity, or introduce new facilities. Therefore, there would be no direct cumulative impacts to socioeconomics from the contract renewal action.

5.7 ENVIRONMENTAL JUSTICE

As mandated by Executive Order12898, published February 11, 1994, entitled "Federal Actions to address Environmental Justice in Minority Populations and Low-income Populations," Executive Order require federal agencies to identify and address disproportionately high and adverse human health or environment effect of their programs, policies, and activities on minority populations and low income populations. In August 1994, the Secretary of the Interior issues on environmental justice policy statement directing departmental action resulting in Interior's *Strategic Plan for Environmental Justice*.

As part of Reclamation's decision making process, public involvement, Indian Trust assets consultation, and coordination with potentially affected members of the public (see Chapter 7) it has been determined that renewal of Contract No. 14-06-200-3365A does not disproportionately affect minority populations or low-income populations. In addition, renewal of the proposed contract terms and provisions would not involve the construction of new facilities, cause the relocation of any populations, result in any known health hazards, cause he generation af any hazardous wastes, or result in any property takings.

No impacts relevant to Environmental Justice are anticipated because the project does not include any construction or development of project facilities, or any change in operations that would affect the general public.

5.8 INDIAN TRUST ASSETS

The United States Government's trust responsibility for Indian resources requires Reclamation and other agencies to take measures to protect and maintain trust resources. These responsibilities include taking reasonable actins to preserve and restore tribal resources. Indian Trust Assets (ITAs) are legal interests in property and rights held in trust by the United States for Indian tribes or individuals, Indian reservations, rancherias, and allotments are common ITAs. During preparation of this EA, it was determined based upon information provided by Reclamation that no ITA's exist within the PVWMA, WWD or SCVWD. Therefore neither of the alternatives would result in effects to ITAs.

CHAPTER 6 – OTHER IMPACTS

GROWTH INDUCEMENT

NEPA requires consideration of indirect effects, including potential growth-inducing impacts as effects of proposed actions (40 CFR 1508.8 (b)). To identify growth inducing impacts, a determination would need to be made that the proposed action would result in increased growth, and that the increased growth would be reasonably certain to occur, and that there is a clear causation relationship between the action undertaken and growth. The long-term renewal of Contract Number 14-06-200-3365A would not result in growth inducing impacts.

WWD and SCVWD. Pursuant to the Related Agreement, this contract is a temporary water supply of no more than 6,260 af/y for WWD and is further limited to a dry year supply for SCVWD. Therefore, this water supply would not be considered reliable for either WWD or SCVWD. Rather it is a cost effective water supply that would help meet current demand and offset water shortages while minimizing impacts to the respective groundwater basins. The 6,260 af/y available under this contract, when compared to, and integrated with other WWD and SCVWD supplies, and due primarily to the fact that this water is used to address shortages of existing contractual supplies, it is concluded that none of the alternatives will have no growth inducing affects.

PVWMA. Although PVWMA does not currently receive any CVP water, it could in the future receive CVP water pursuant to the Related Agreement. As stated in Section 1.1, a Revised Draft BMP EIS analyzing the impacts of connecting PVWMA's import water facilities to the San Felipe Project facilities and the use of CVP water in PVWMA's service area was circulated for a 60 day public review period which ended November 21, 2003. The BMP EIS examines the use of CVP water and associated impacts in the PVWMA service area, including the 6,260 af/y under long-term Contract No. 14-06-200-3365A. As stated in the BMP EIS, without a supplemental source of water, it is assumed that basin-wide groundwater pumping restrictions would be imposed in order to bring the groundwater basin into balance and to curtail seawater intrusion. This action would restrict agricultural water supplies to 12,200 af/y, and 80 percent reduction from current levels. It is expected that approximately 25,660 acres of existing farmland could no longer be used for irrigated agricultural since no groundwater would be available. The fallowing of 25,660 acres of land would cause property values to decline precipitously, creating pressure for conversion of the land to other uses (such as urbanization). The amount of urbanization that could occur under the No Action Alternative is speculative. Receipt of up to 6,260 af/y pursuant to the Related Agreement would replace some groundwater overdraft with surface water supply, thus partially preserving irrigated agriculture. While the provision of CVP water could remove an obstacle to growth by improving the reliability of the groundwater basin for urban uses, that amount of growth would be consistent with regional plans and growth projections. The provision of no more than 6,260 af/y of CVP water to PVWMA to reduce groundwater overdraft represents a fraction of existing demand within the PVWMA service area. For these reasons, none of the alternatives will have growth inducing effects in the PVWMA service area.

CHAPTER 7 – CONSULTATION AND COORDINATION

7.1 FISH AND WILDLIFE COORDINATION ACT (16 USC 651 et seq.)

The Fish and Wildlife Coordination Act requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The implementation of the CVPIA, of which this action is a part, has been jointly analyzed by Reclamation and the FWS and is being jointly implemented. This continuous consultation and consideration of the views of the FWS in addition to their review of this EA and consideration of their comments satisfies any applicable requirements of the FWCA.

7.2 ENDANGERED SPECIES ACT (16 USC 1521 et seq.)

Section 7 of the Endangered Species Act requires federal agencies, in consultation with the Secretary of the Interior, to ensure that their actions do not jeopardize the continued existence of federally endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species. Applicable consultation requirements are being conducted concurrent with development of the EA.

Reclamation has completed consultation with FWS and NOAA for the use of the 6,260 af/y of water in PVWMA under Contract No. 14-06-200-3365A. A Biological Opinion (BO) was issued on March 19, 2004 from FWS and from NOAA on August 15, 2003. PVWMA and Reclamation are working together to implement the measures in the BO. Reclamation has determined that the renewal of the long-term contract together with the implementation of the BOs for the use of this water in PVWMA would not likely adversely affect federally listed threatened, endangered species or their federally designated habitats.

Due to the reductions in CVP contract supplies, SCVWD and WWD would use this water to replace the reduced amounts. The continued deliveries of this 6,260 af/y to SCVWD and WWD would be applied to existing agricultural lands and not contribute to land conversions. Reclamation has determined that the renewal of Contract Number 14-06-200-3365 would not likely adversely affect federally listed threatened or endangered species or their designated critical habitats. Reclamation is informally consulting under the ESA concurrent with this EA. The ESA compliance will be completed prior to finalization of the NEPA process and signing of the Finding of No Significant Impact.

Reclamation is preparing separate Biological Assessments for the San Felipe Division and San Luis Units. It is anticipated the Biological Assessments for the Long-Term Contract Renewals for the San Felipe Division and San Luis Unit would include discussions of all contract assignments to SCVWD and WWD respectively. The amounts of water associated with contract assignments to SCVWD and WWD are small and do not exceed the original CVP contract supplies to either agency. It is further anticipated the corresponding Biological Opinions would consider all CVP contract amounts for the purpose of efficiency and consistency to protect special status species. Therefore, formal consultation under ESA is not required for the renewal of Contract Number 14-06-200-3365 for the 6,260 af/y.

7.3 NATIONAL HISTORIC PRESERVATION ACT (15 USC 470 et seq.)

Section 106 of the National Historic Preservation Act requires federal agencies to evaluate the effects of federal undertakings on historical, archaeological and cultural resources. Due to the nature of the Proposed Action, there will be no effect on any historical, archaeological or cultural resources, and no further compliance actions are required.

7.4 EXECUTIVE ORDER 11988 - FLOODPLAIN MANAGEMENT AND EXECUTIVE ORDER 11990 - PROTECTION OF WETLANDS

Executive Order 11988 requires federal agencies to prepare floodplain assessments for actions located within or affecting floodplains, and similarly, Executive Order 11990 places similar requirements for actions in wetlands. Due to the nature of the Proposed Action, there will be no effect on any floodplains or wetlands and no further compliance actions are required.

7.5 PUBLIC COORDINATION

A Notice of Availability of the Draft EA will be released by Reclamation to the public in May 2004 announcing the review period and where the document can be obtained. Reclamation will send the Draft EA to all that request it. The Draft EA will be made available for 30 days to the public for review/comment and sent directly to the following agencies/entities:

- U.S. Fish & Wildlife Service
- NOAA Fisheries
- California Department of Fish & Game
- Fresno County
- Kings County
- Santa Clara County
- Monterey County
- Santa Cruz County
- San Benito County
- Pajaro Valley Water Management Agency
- Santa Clara Valley Water District
- Westlands Water District
- U.S. Environmental Protection Agency
- Natural Resource Defense Council
- California Department of Water Resources

All written comments to the Draft EA will be included in Appendix B. Responses to the comments will be included in Appendix B following the comment letters.

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